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February, 1984

# EXPERIMENTAL INVESTIGATION OF SHOCK-CELL NOISE REDUCTION FOR DUAL-STREAM NOZZLES IN SIMULATED FLIGHT

Contract NAS3-23166

(NASA-CR-168336) EXPERIMENTAL INVESTIGATION  
OF SHOCK-CELL NOISE REDUCTION FOR  
DUAL-STREAM NOZZLES IN SIMULATED FLIGHT  
COMPREHENSIVE DATA REPORT. VOLUME 1: TEST  
NOZZLES AND ACOUSTIC DATA (General Electric G3/71



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## Comprehensive Data Report VOLUME I

### Test Nozzles and Acoustic Data

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For

National Aeronautics and Space Administration  
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VOLUME I TEST NOZZLES AND ACOUSTIC DATA

## 1.0 INTRODUCTION

This and the companion volume constitute the comprehensive data report for the research program conducted under NASA Contract NAS3-23166 titled "Experimental Investigation of Shock-Cell Noise Reduction for Dual-Stream Nozzles in Simulated Flight". Detailed schematics of the scale model nozzle configurations, tabulations of aerodynamic test conditions and computer listings of the measured acoustic data are presented in Volume I.

Volume II contains tabulations of the aerodynamic test conditions of the Laser velocimeter tests and LV measured flow field data, diagnostic shadowgraph test results and static pressure data.

Data obtained earlier under NASA Contract NAS3-22514 titled "Experimental Investigation of Shock-Cell Noise Reduction for Single-Stream Nozzles in Simulated Flight" are presented in a separate data report\*. These reports also contain a brief description of the General Electric Anechoic Free-Jet Facility and details of data acquisition and reduction procedures.

\* Comprehensive Data Reports, Volume I, II and III, R82AEB491, NASA CR-168234, July, 1982.

## 2.0 SCALE MODEL NOZZLE CONFIGURATIONS

This contract's primary objective was to determine means by which supersonic jet shock noise could be reduced to acceptable levels for advanced supersonic aircraft. It was accomplished principally by experimentally evaluating the influence of select nozzle geometric flow passages on the acoustic behavior of inverted-velocity-profile coannular nozzles. Two basic coannular nozzle categories were investigated, i.e., a) non-mechanically suppressed and b) outer stream mechanically suppressed. Particular emphasis was placed on exploring the usefulness of convergent-divergent (C-D) nozzle flow passages, designed for ideal isentropic shock-free expansion at select Mach No. design points. C-D flow passages were, therefore, employed on both basic nozzle systems, on the outer flow stream as well as on the inner flow passage. For evaluation of C-D effectiveness, comparable convergent-only nozzle flow passages were tested for both nozzle categories, again applied to both inner and outer flow passages.

A secondary objective was initially planned to also be accomplished within the contract; i.e., to evaluate methods to reduce shock screech. During conduct of the program, however, that objective and its accompanying level of effort were redirected toward the goal of further reducing shock broadband noise through use of plug closure design changes.

To accomplish the program's primary and secondary goals, the following six nozzle configurations were selected and tested within the General Electric Anechoic Free-Jet/Jet Noise Facility.

- o Configuration DFSC-1 Coannular plug nozzle, inner and outer convergent flowpaths, truncated plug closure, Figures 2-1, -2 and -3.
- o Configuration DFSC-6 Same as DFSC-1, but with full length, sharp-tipped plug closure, Figure 2-4.

- o Configuration DFSC-2 Coannular plug nozzle, inner and outer convergent-divergent (C-D) flowpaths, truncated plug closure, Figure 2-5.
- o Configuration DFSC-3 Same as DFSC-2, but with full length, sharp-tipped closure, Figures 2-6, -7 and -8.
- o Configuration DFSC-4 Coannular plug nozzle, 20 chute outer stream suppressor with convergent flow elements, annular inner stream of convergent flowpath, truncated plug closure, Figures 2-9 and -10.
- o Configuration DFSC-5 Coannular plug nozzle, 20 chute outer stream suppressor with C-D flow elements, annular inner stream of C-D flowpath, truncated plug closure, Figures 2-11 through 2-15.

Configuration geometric characteristics are summarized in Table 2-1. From the above configuration sequence listing and from the table, comparative model sets and nozzle categories can be seen as:

- o DFSC-2 and DFSC-1: Compares coannular C-D to convergent flow passages, respectively, within a baseline non-mechanically suppressed system.
- o DFSC-6 and DFSC-1: Compares sharp-tipped to truncated plug closures, respectively, within the coannular convergent flowpath system.
- o DFSC-3 and DFSC-2: Compares sharp-tipped to truncated plug closures, respectively, within the coannular C-D flowpath system.
- o DFSC-5 and DFSC-4: Compares coannular C-D to convergent flow passages, respectively, within the system employing a 20-chute mechanical suppressor in the outer stream.



Details of the test configurations are summarized within the following sections. For discussion of the nozzles' design philosophy, method of construction, physical dimensions and instrumentation application, consult Reference 2-1.

## 2.1 COANNULAR PLUG NOZZLES, NON-MECHANICALLY SUPPRESSED

Within this category fall Configurations DFSC-1, -6, -2 and -3, discussed separately as follows:

### 2.1.1 Configurations DFSC-1; Coannular Plug Nozzle, Inner and Outer Convergent Flowpaths, Truncated Plug Closure

This configuration, Figures 2-1, -2 and -3, was selected as the baseline convergent coannular nozzle system to which the shock noise study would be referenced to evaluate C-D flowpath shock control effectiveness. The model was available from NASA-Lewis/GE Contract NAS3-21608 (Reference 2-2). The nozzle flowpaths are a one-dimensional Mach number similitude of the YJ101 AST/VCE baseline coannular nozzle system. Specifics of this dual stream inverted-velocity-profile nozzle are as follows:

- Outer Flow Throat Plane Area, in. <sup>2</sup>	18.05
- Outer Flow Equivalent Flow Diameter, in.	4.79
- Outer Flow Radius Ratio	0.85
- Inner Flow Throat Plane Area, in. <sup>2</sup>	3.44
- Inner Flow Equivalent Flow Dia., in.	2.09
- Inner Flow Radius Ratio	0.93
- Inner to Outer Flow Area Ratio	0.19

### 2.1.2 Configuration DFSC-6; Coannular Plug Nozzle, Inner and Outer Convergent Flowpaths, Sharp-Tipped Plug Closure

This configuration, Figure 2-4, is identical to Configuration DFSC-1 except that the truncated plug tip is replaced with a sharp-tipped plug closure. This full length 15° half angle plug maintains an aerodynamically clean flow closure aft of the plug tip such that downstream flow disturbances and shock structure are minimized or negated entirely.

### 2.1.3 Configuration DFSC-2; Coannular Plug Nozzle, Inner and Outer Convergent-Divergent Flowpath, Truncated Plug Closure

This coannular C-D nozzle system, Figure 2-5, was also available from Contract NAS3-21608 (Reference 2-2). Details of physical geometry and design point aerodynamic cycle are as follows:

	<u>OUTER NOZZLE</u>	<u>INNER NOZZLE</u>
- Throat Plane Area, in <sup>2</sup>	18.05	3.97
- Equivalent Throat Dia., in.	4.79	2.25
- Exit Plane Area, in. <sup>2</sup>	20.65	4.39
- Radius Ratio at Throat	0.855	0.927
- Radius Ratio at Exit Plane	0.789	0.908
- $A_{exit}/A_{throat}$	1.144	1.105
- M, Mach Number-Design Point	1.44	1.38
- $P_T/P_{amb}$ , Nozzle Pressure Ratio	3.3	3.1
- $T_T$ , Nozzle Total Temp., °R	1760	860
- $\gamma$ , Specific Heat Ratio	1.345	1.4
- $\theta_1$ , Divergent Flap Angle, degrees	10	12
- $\theta_2$ , Plug Angle, degrees	15	15
- $l/S$ , Divergent Flowpath Length/ Throat Slant Height	3.4	3.42

#### SYSTEM

- Total Throat Plane Area, in. <sup>2</sup>	22.02
- Total Equivalent Throat Dia., in.	5.295
- System Area Ratio, Inner-to-Outer	0.22

The configuration has outer and inner flowpaths developed for shock control through isentropic expansion at nozzle pressure ratios of 3.3 and 3.1, respectively. General guidelines for flowpath development include:

- o The upstream flowpaths properly converge the flow into the throat plane (the throat plane is on a  $15^\circ$  slant for both streams) to assure near complete flow turning prior to the throat plane. The outer stream throat plane now occurs at the tangent point of the crown's radius to the  $15^\circ$  plug angle. The outer shroud inner diameter (I.D.) flowpath is also contoured to effect a more gradual, but vectored, flow turning prior to the throat plane.
- o Gradual flow divergence is assured by setting the I.D. flowpath angle,  $\theta_2$ , minus the outer diameter (O.D.) flowpath angle,  $\theta_1$ ,  $\leq 5^\circ$ ; that is,  $\theta_2 - \theta_1 = 5^\circ$  and  $3^\circ$  for the outer and inner nozzles, respectively.
- o Adequate length of divergence is assured, while maintaining the proper  $A_{exit}/A_{throat}$  ratios for isentropic expansion. The general criterion parameter of the ratio of divergent flowpath length-to-throat slant height,  $L/S$  is set at 3.4 and 3.42 for the outer and inner flowpaths, respectively.

#### 2.1.4 Configuration DFSC-3; Coannular Plug Nozzle, Inner and Outer Convergent-Divergent Flowpaths, Sharp-Tipped Plug Closure

This configuration, Figures 2-6, -7 and -8, is identical to Configuration DFSC-2 except that the truncated plug tip is replaced with a sharp-tipped plug closure as discussed in Section 2.1.2.

### 2.2 COANNULAR PLUG NOZZLES, MECHANICALLY SUPPRESSED

Within this category fall Configurations DFSC-4 and -5, discussed separately, as follows:

2.2.1 Configuration DFSC-4; Coannular Plug Nozzle, 20-Chute Outer Stream  
Suppressor with Convergent Flow Elements, Annular Inner Stream of  
Convergent Flowpath, Truncated Plug Closure

This nozzle system, per Figure 2-9 and -10, was available from NASA-Lewis/ GE Contract NAS3-21608 (Reference 2-2). It had produced identifiable shock cell radiated noise and, therefore, was selected as a valid baseline against which chute redesign in the form of C-D flow elements could be properly evaluated for effectiveness in minimizing shock noise. The suppressor was patterned from the flowpath details of the YJ101 AST/VCE-size 20-chute suppressor, developed under NASA-Lewis/GE Contract NAS3-20582 Modification Number 10, Exhibit C, Reference 2-3. Specifics of the configuration are as follows:

OUTER NOZZLE

- Number of Suppressor Elements	20
- Elemental Planform Shape	Radial
- Suppressor Area Ratio	1.75
- Suppressor Radius Ratio	0.764
- Angle Subtended by Each Chute, degrees	7.714
- Angle Subtended by Each Flow Element, degrees	10.286
- Chute Depth-to-Width Ratio	1.0
- Chute Entrance Design Mach Number	0.7
- Throat Plane Area, in. <sup>2</sup> (Design)	20.36
- Equivalent Throat Diameter, in. (Design)	5.09

INNER NOZZLE

- Throat Plane Area, in. <sup>2</sup>	3.99
- Equivalent Throat Diameter, in.	2.25
- Throat Radius Ratio	0.941



## SYSTEM

- Total Throat Plane Area, in.<sup>2</sup> (Design) 24.348
- Total Equivalent Throat Diameter, in. (Design) 5.568
- System Area Ratio, Inner to Outer (Design) .20

### 2.2.2 Configuration DFSC-5; Coannular Plug Nozzle, 20-Chute Outer Stream Suppressor with Convergent-Divergent Flow Elements, Annular Inner Stream of Convergent-Divergent Flowpath, Truncated Plug Closure

This nozzle's outer stream mechanical suppressor with C-D flow elements, per Figures 2-11 through 2-15, was designed and manufactured under the NASA-Lewis/GE Contract NAS3-22514, "Investigation of Shock Cell Noise Reduction for Single Stream Nozzles in Simulated Flight". Details of the C-D flowpath suppressor design are discussed in Reference 2-4, the model design report for that contract. The inner nozzle C-D flowpath was designed and implemented within this contract. The design methodology discussed in Reference 2-5 was used to evolve the inner nozzle C-D flowpath. Specific design values are as follows:

#### OUTER NOZZLE:

- |                                            |        |                          |
|--------------------------------------------|--------|--------------------------|
| - Mach No. (Design)                        | 1.425  | } C-D DESIGN POINT CYCLE |
| - $P_T/P_{amb}$                            | 3.238  |                          |
| - $T_T, ^\circ R$                          | 1730   |                          |
| - $T_S, ^\circ R$                          | 1271   |                          |
| - $\gamma$                                 | 1.354  |                          |
| - $V_j$ , ft/sec                           | 2448   |                          |
| - Number of Suppressor Elements            | 20     |                          |
| - Elemental Planform Shape                 | Radial |                          |
| - $A_{flow}$ at exit/ $A_{flow}$ at throat | 1.133  |                          |

	<u>AT THROAT</u>	<u>AT EXIT PLANE</u>
- Suppressor Area Ratio	1.752	1.56
- Suppressor Radius Ratio	.764	.743
- Angle Subtended by Each Chute, degrees	7.72	6.44
- Angle Subtended by Each Flow Element, degrees	10.28	11.56
- Flow Area, in. <sup>2</sup> (Design)	20.23	22.92
- Equivalent Flow Dia, in. (Design)	5.08	5.403
- Chute Blockage Area, in. <sup>2</sup>	15.20	12.77

INNER NOZZLE:

- Mach No. (Design)	1.327	C-D DESIGN POINT CYCLE
- $P_T/P_{amb}$	2.90	
- $T_T$ , °R	850	
- $T_S$ , °R	620	
- $\delta$	1.424	
- $V_j$ , ft/sec	1633	
- $A_{exit}/A_{throat}$	1.077	
- $\theta_1$ , Divergent Flap Angle, degrees	12.45	
- $\theta_2$ , Plug Angle, degrees	15	
- $\ell/S$ , Divergent Flowpath Length/Throat Slant Height	2.80	

	<u>AT THROAT</u>	<u>AT EXIT PLANE</u>
- Flow Area, in. <sup>2</sup>	4.05	4.36
- Equivalent Flow Dia, in.	2.27	2.36
- Radius Ratio	.940	.929

SYSTEM:

- $A_{\text{Throat, Inner}}/A_{\text{Throat, Outer}}$  .20
- Total Throat Flow Area, Inner & Outer, 24.272  
in<sup>2</sup>
- Total Equivalent Flow Diameter at Throat, 5.559  
Inner & Outer, in.

TABLE 2-1. SUMMARY OF SIGNIFICANT GEOMETRIC CHARACTERISTICS OF TEST NOZZLES

NOZZLE CATEGORY		NON-MECHANICALLY SUPPRESSED				MECHANICALLY SUPPRESSED	
MODEL DESCRIPTION		COANNULAR PLUG NOZZLE, INNER & OUTER CONVERGENT FLOWPATHS		COANNULAR PLUG NOZZLE, INNER & OUTER C-D FLOWPATHS		20-CHUTE CONVERGENT OUTER SUPPRESSOR, ANNULAR CONVERGENT INNER	20-CHUTE C-D OUTER SUPPRESSOR, ANNULAR C-D INNER
CONFIGURATION NUMBER		DFSC-1	DFSC-6	DFSC-2	DFSC-3	DFSC-4	DFSC-5
PLUG CLOSURE		TRUNCATED	SHARP-TIPPED	TRUNCATED	SHARP-TIPPED	TRUNCATED	TRUNCATED
NOZZLE PARAMETER	THROAT AREA, $\text{cm}^2$ ( $\text{in}^2$ )	OUTER	116.5 (18.05)	116.5 (18.05)	131.4 (20.36)	130.5 (20.23)	
		INNER	22.2 (3.44)	25.6 (3.97)	25.7 (3.99)	26.1 (4.05)	
	THROAT EQUIVALENT DIAMETER, cm (in)	OUTER	12.2 (4.79)	12.2 (4.79)	12.9 (5.09)	12.8 (5.08)	
		INNER	5.3 (2.09)	5.7 (2.25)	5.7 (2.25)	5.8 (2.27)	
	THROAT RADIUS RATIO	OUTER	.85	.855	.764	.764	
		INNER	.93	.927	.941	.940	
	EXIT AREA OF DIVERGENT FLOWPATH, $\text{cm}^2$ ( $\text{in}^2$ )	OUTER	-	133.2 (20.65)	-	147.9 (22.92)	
		INNER	-	28.3 (4.39)	-	28.1 (4.36)	
	EXIT RADIUS RATIO OF DIVERGENT FLOWPATH	OUTER	-	.789	-	.743	
		INNER	-	.908	-	.929	
	$A_{\text{exit}}/A_{\text{throat}}$ OF C-D FLOWPATH	OUTER	-	1.144	-	1.133	
		INNER	-	1.105	-	1.077	
	SUPPRESSOR AREA RATIO	AT THROAT	-	-	1.75	1.75	
		AT EXIT	-	-	-	1.56	
	C-D DESIGN MACH NO.	OUTER	-	1.44	-	1.425	
		INNER	-	1.38	-	1.327	
	$A_{\text{inner}}/A_{\text{outer}}$	SYSTEM	.19	.22	.20	.20	

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• Previous Model 8, NAS3-21608

•  $A^o = 18.05 \text{ In.}^2$

•  $D_{eq}^o = 4.79 \text{ In.}$

•  $R_r^o = .85$

•  $A^i = 3.44 \text{ In.}^2$

•  $D_{eq}^i = 2.09 \text{ In.}$

•  $R_r^i = .93$

•  $A^i/A^o = .19$

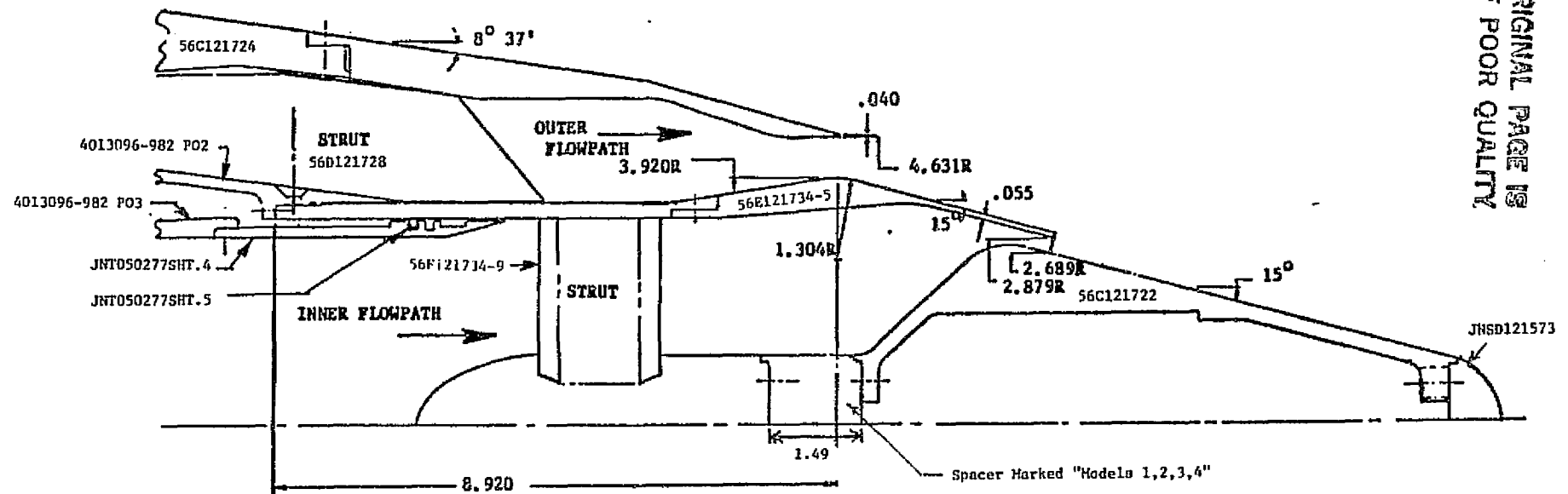


Figure 2-1. Configuration DFSC-1; Coannular Plug Nozzle, Inner and Outer Convergent Flowpaths, Truncated Plug Closure.

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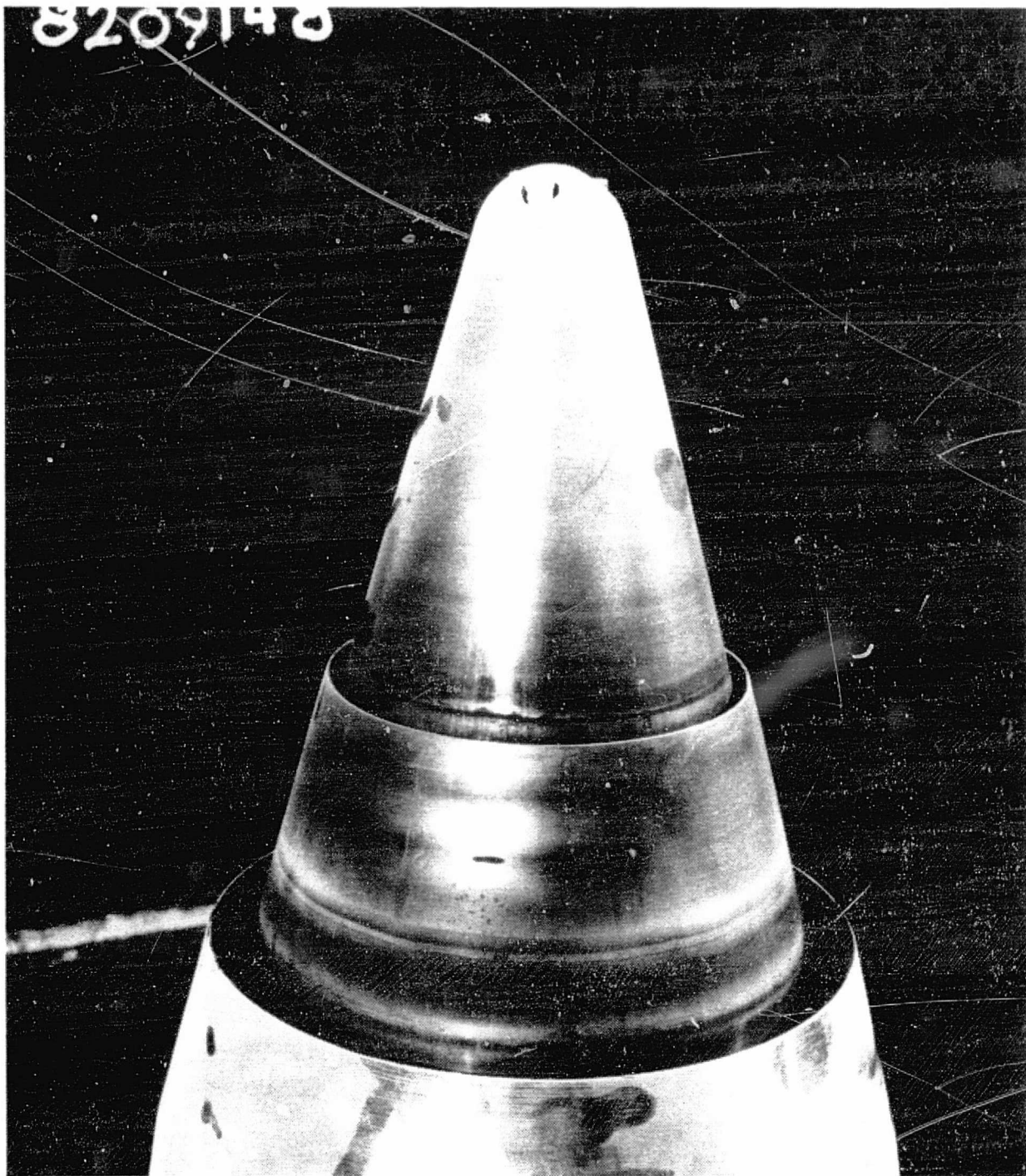


Figure 2-2. Configuration DFSC-1; Coannular Plug Nozzle, Inner and Outer Convergent Flowpaths, Truncated Plug Closure.



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Figure 2-3. Configuration DFSC-1; Coannular Plug Nozzle, Inner and Outer  
Convergent Flowpaths, Truncated Plug Closure.

- $A^o = 18.05 \text{ In.}^2$
- $D_{eq}^o = 4.79 \text{ In.}$
- $R_r^o = .85$
- $A^i = 3.44 \text{ In.}^2$

- $D_{eq}^i = 2.09 \text{ In.}$
- $R_r^i = .93$
- $A^i/A^o = .19$

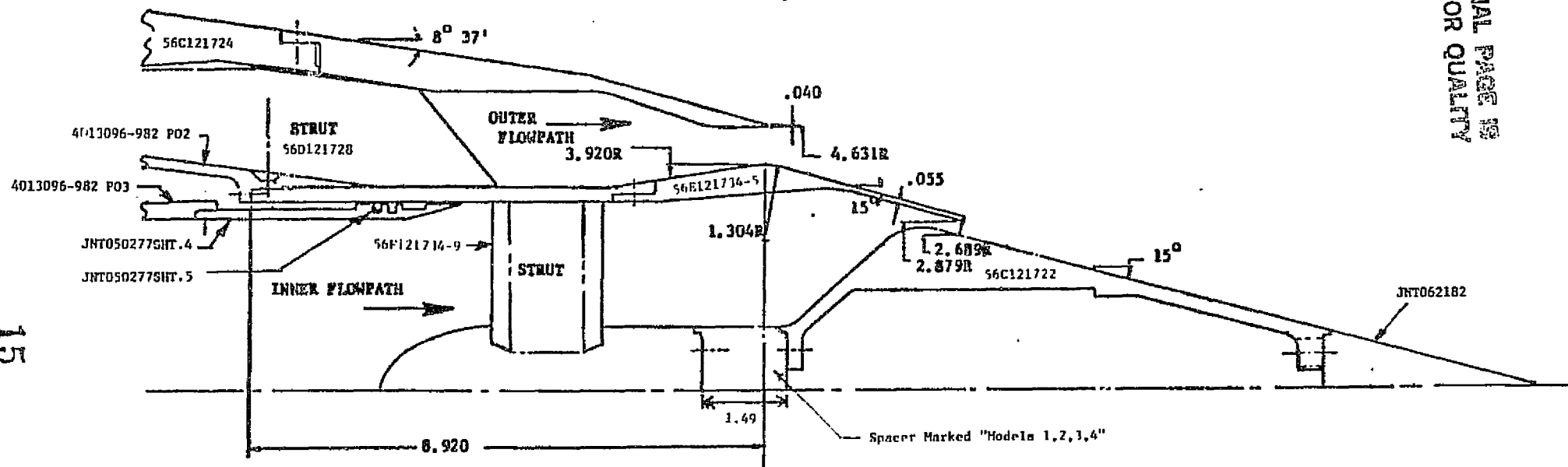
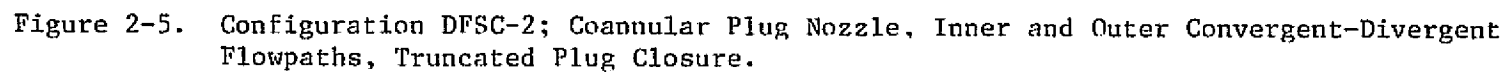


Figure 2-4. Configuration DFSC-6; Coannular Plug Nozzle, Inner and Outer Convergent Flowpaths, Sharp-Tipped Plug Closure.

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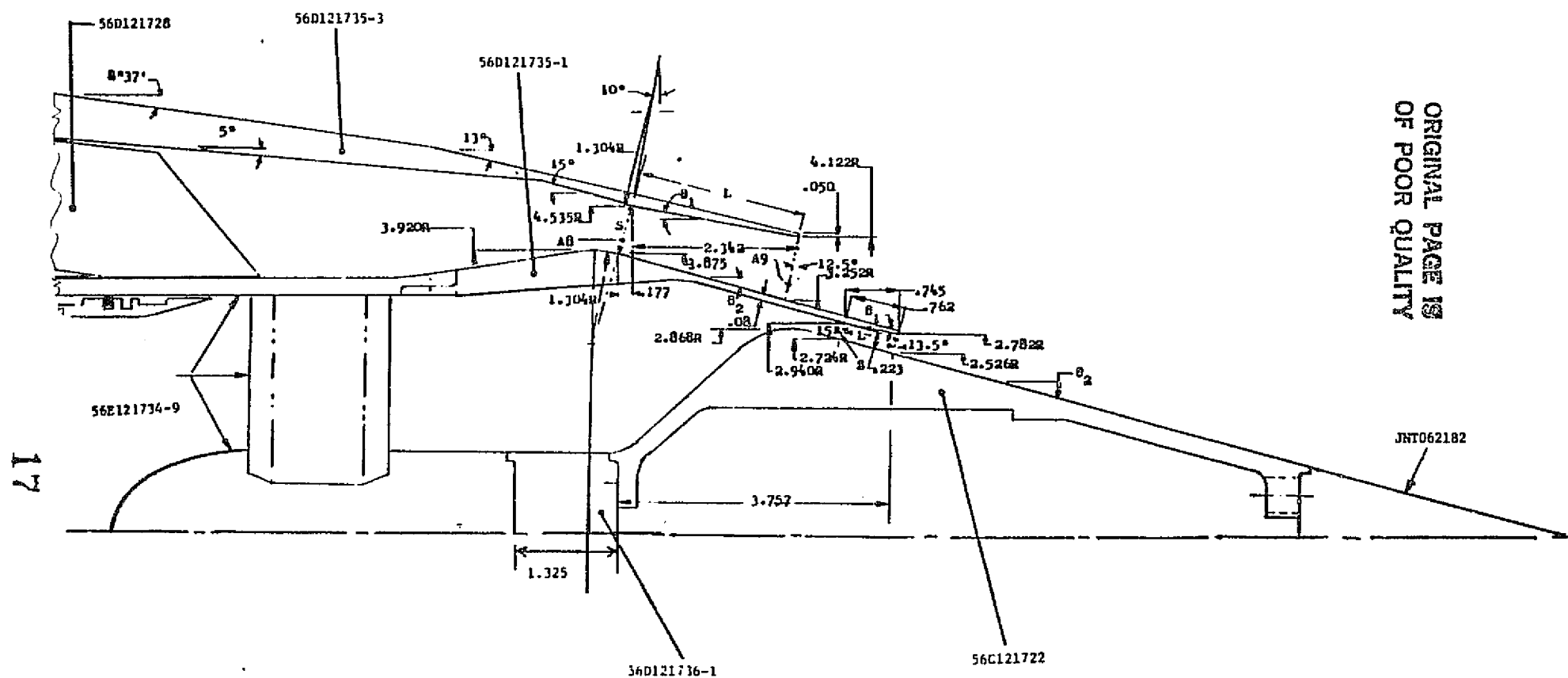


Figure 2-6. Configuration DFSC-3; Coannular Plug Nozzle, Inner and Outer Convergent-Divergent Flowpaths, Sharp-Tipped Plug Closure.



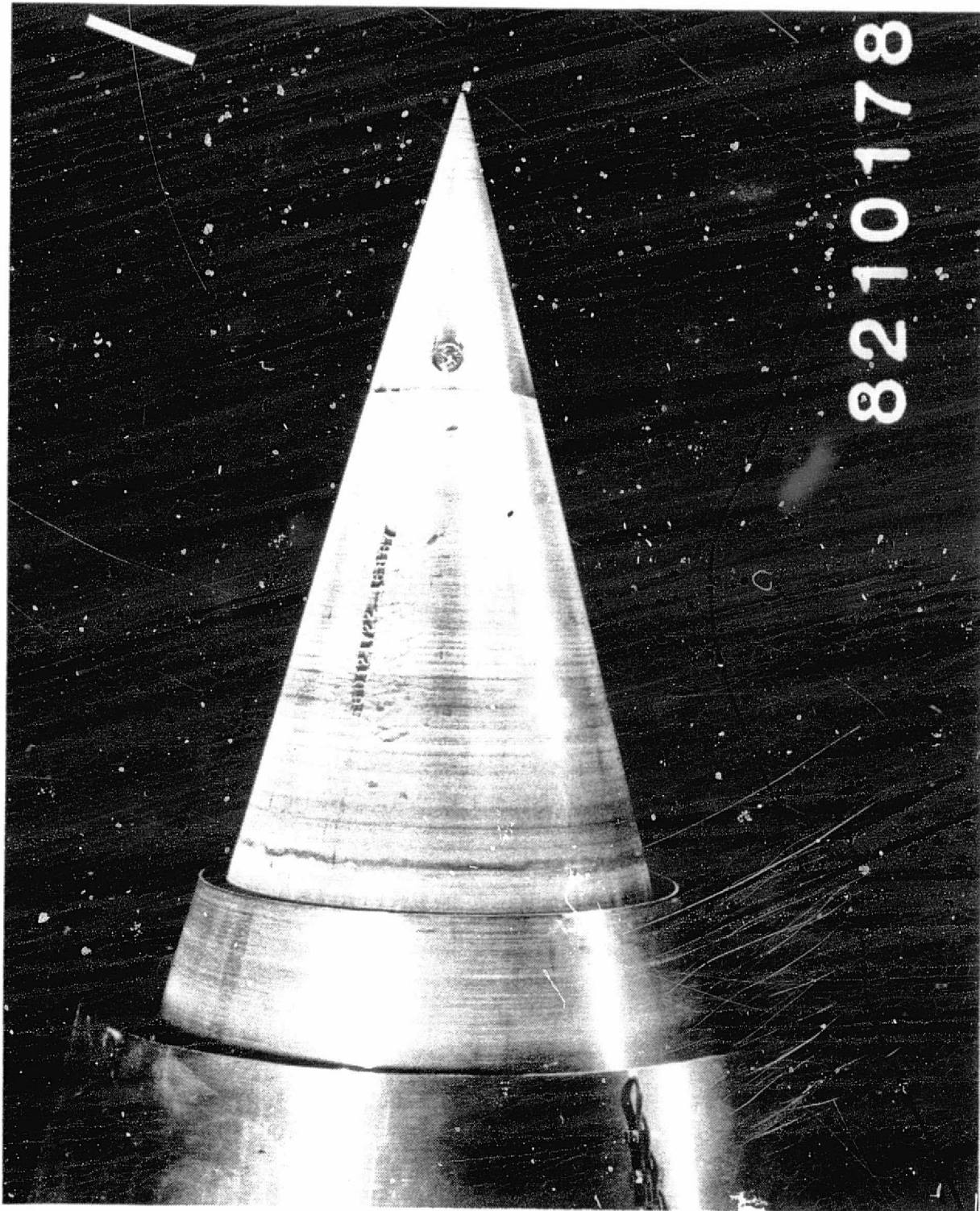


Figure 2-7. Configuration DFSC-3; Coannular Plug Nozzle, Inner and Outer Convergent-Divergent Flowpaths, Sharp-Tipped Plug Closure.

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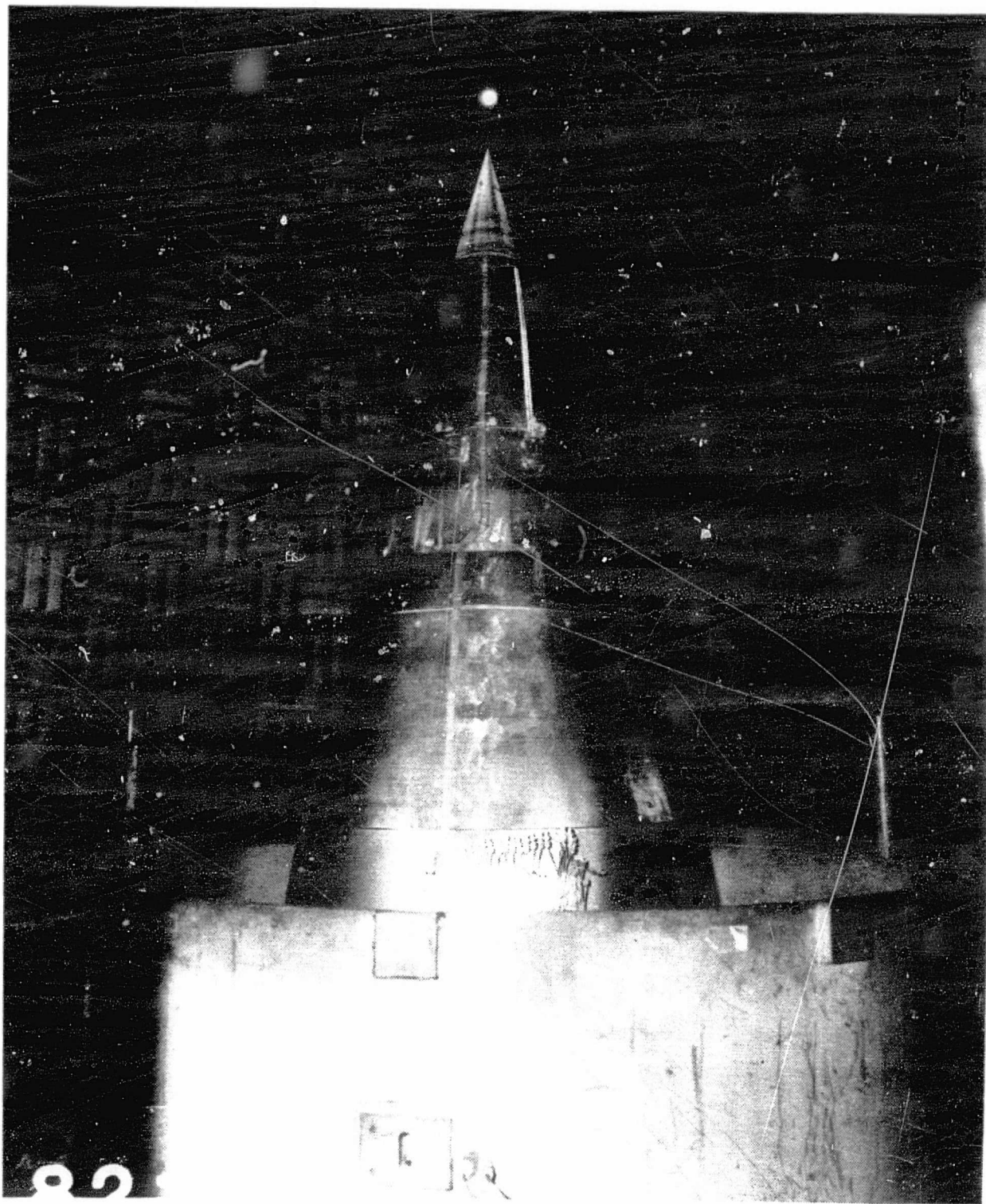
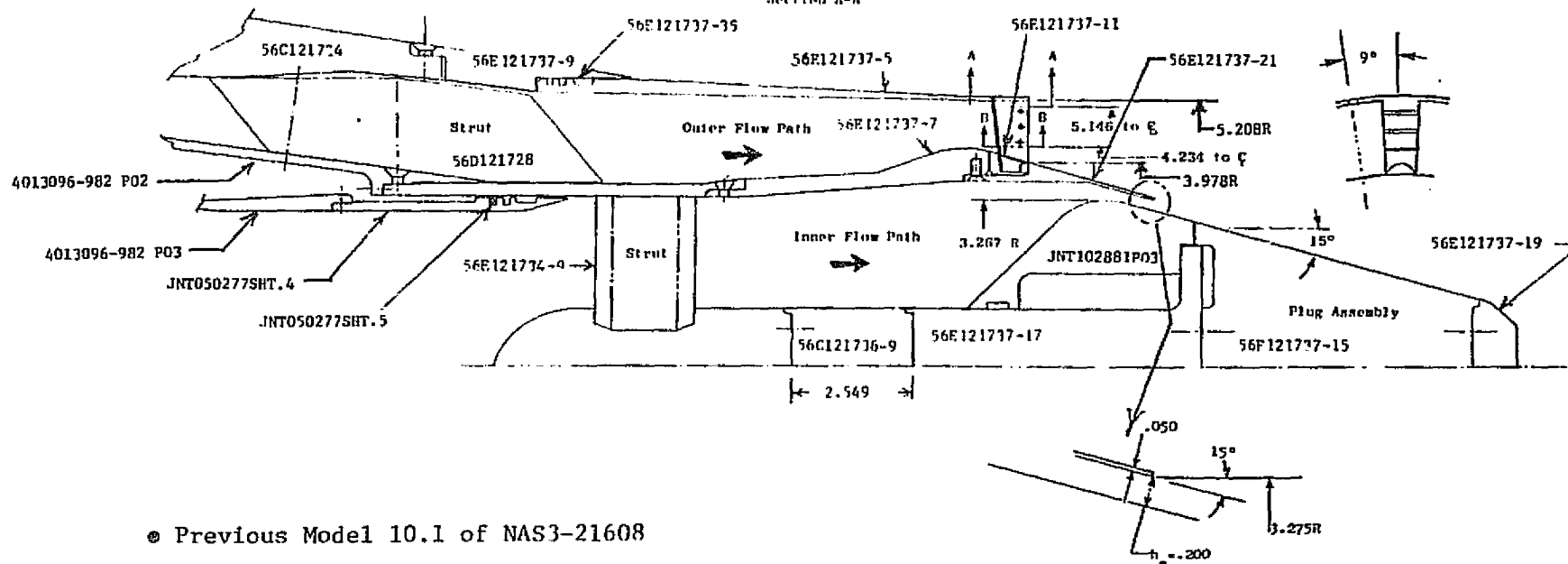
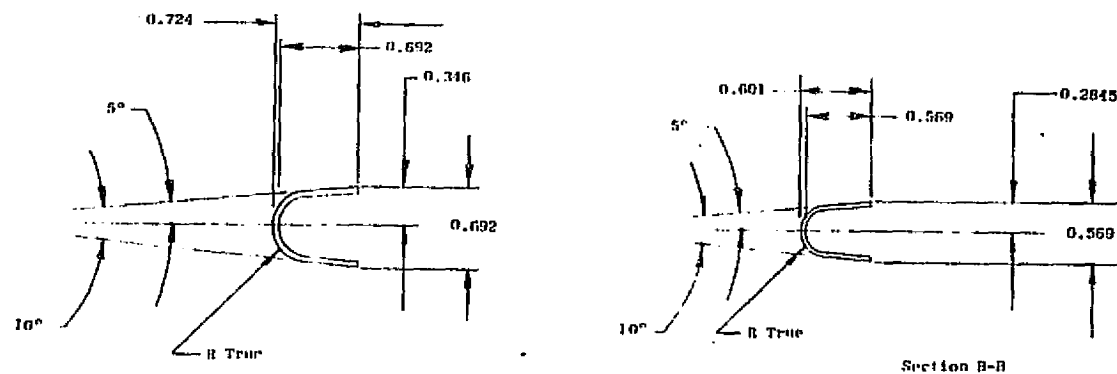


Figure 2-8. Configuration DFSC-3 Installed in Anechoic Free-Jet Facility





© Previous Model 10.1 of NAS3-21608

Figure 2-9. Configuration DFSC-4; Coannular Plug Nozzle, 20-Chute Outer Stream Suppressor with Convergent Flow Elements, Annular Inner Stream of Convergent Flowpath, Truncated Plug Closure.

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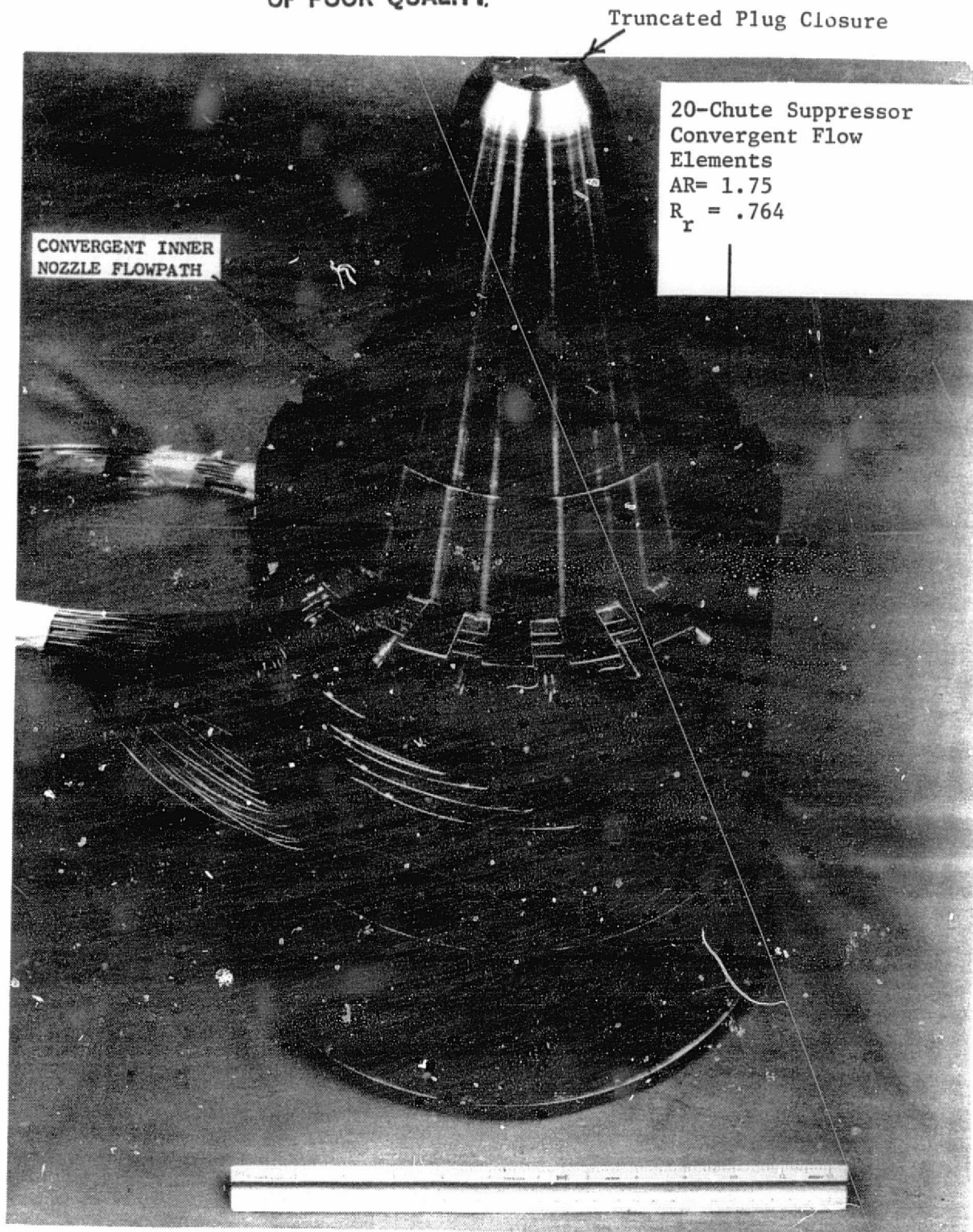


Figure 2-10. Configuration DFSC-4; Coannular Plug Nozzle, 20-Chute Outer Stream Suppressor with Convergent Flow Elements, Annular Inner Stream of Convergent Flowpath, Truncated Plug Closure.







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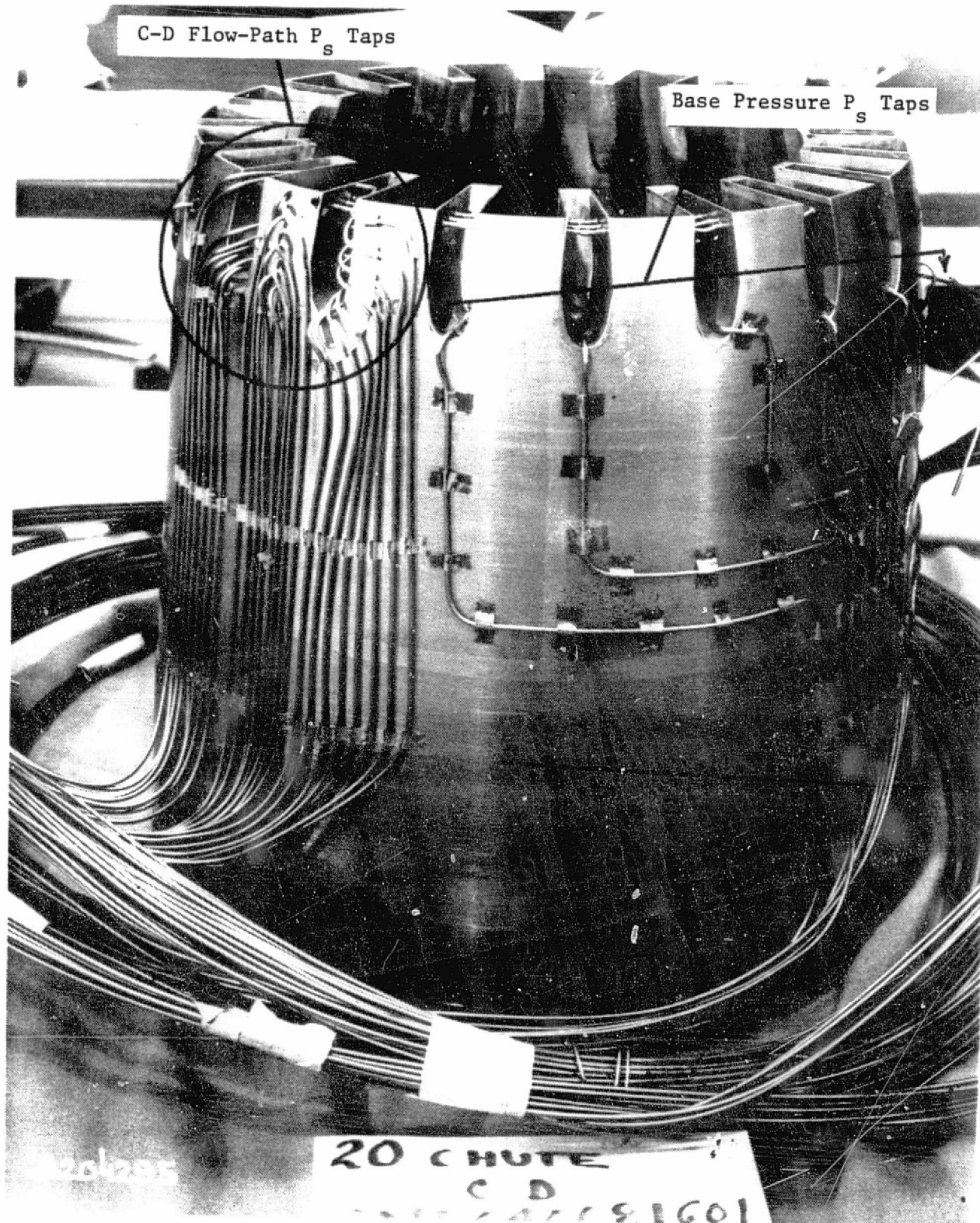


Figure 2-13. Overview of Configuration DFSC-5 20-Chute C-D Suppressor Showing Base Pressure and C-D Flowpath Instrumentation Application.

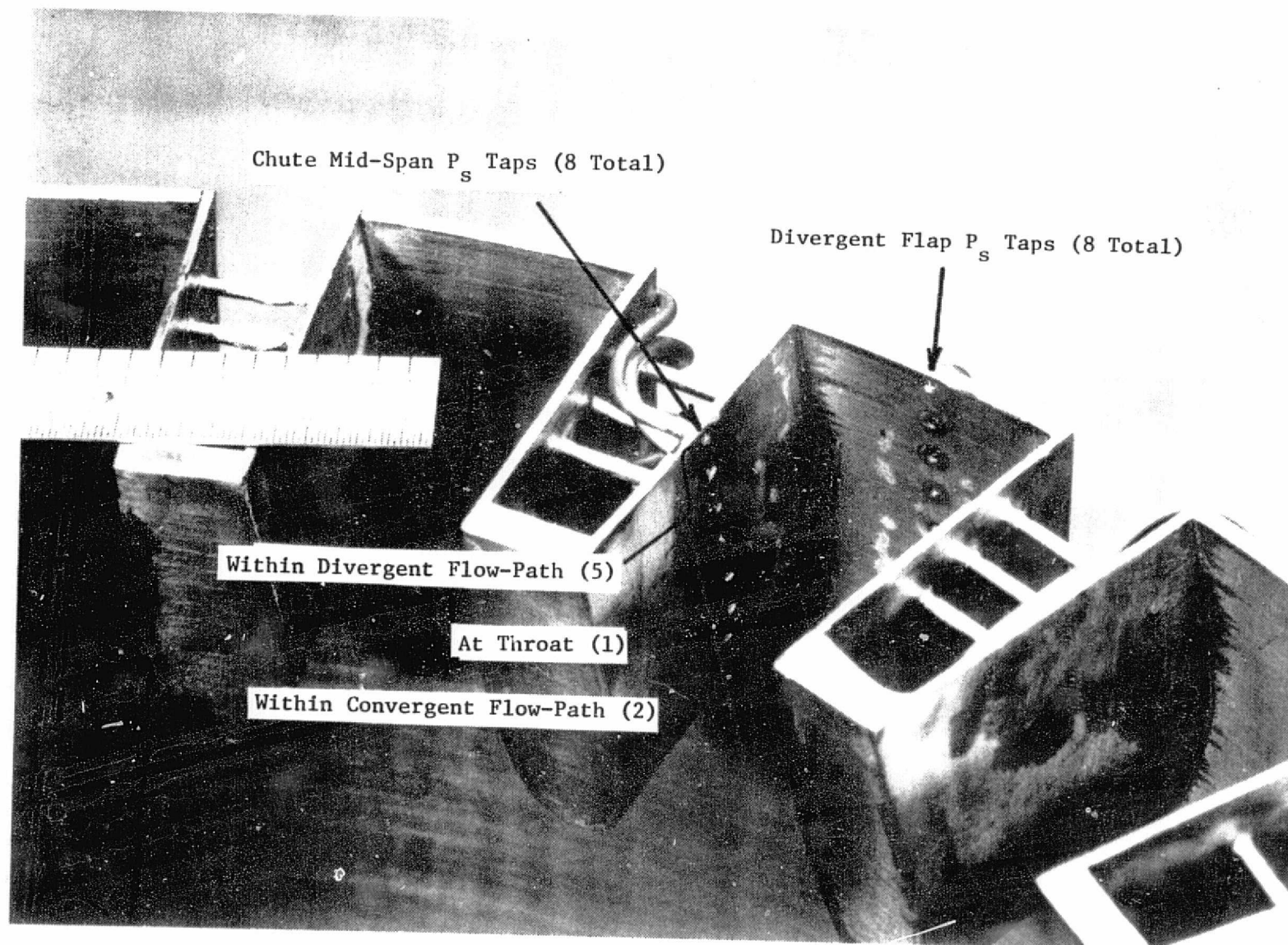


Figure 2-14. Configuration DFSC-5; C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor.

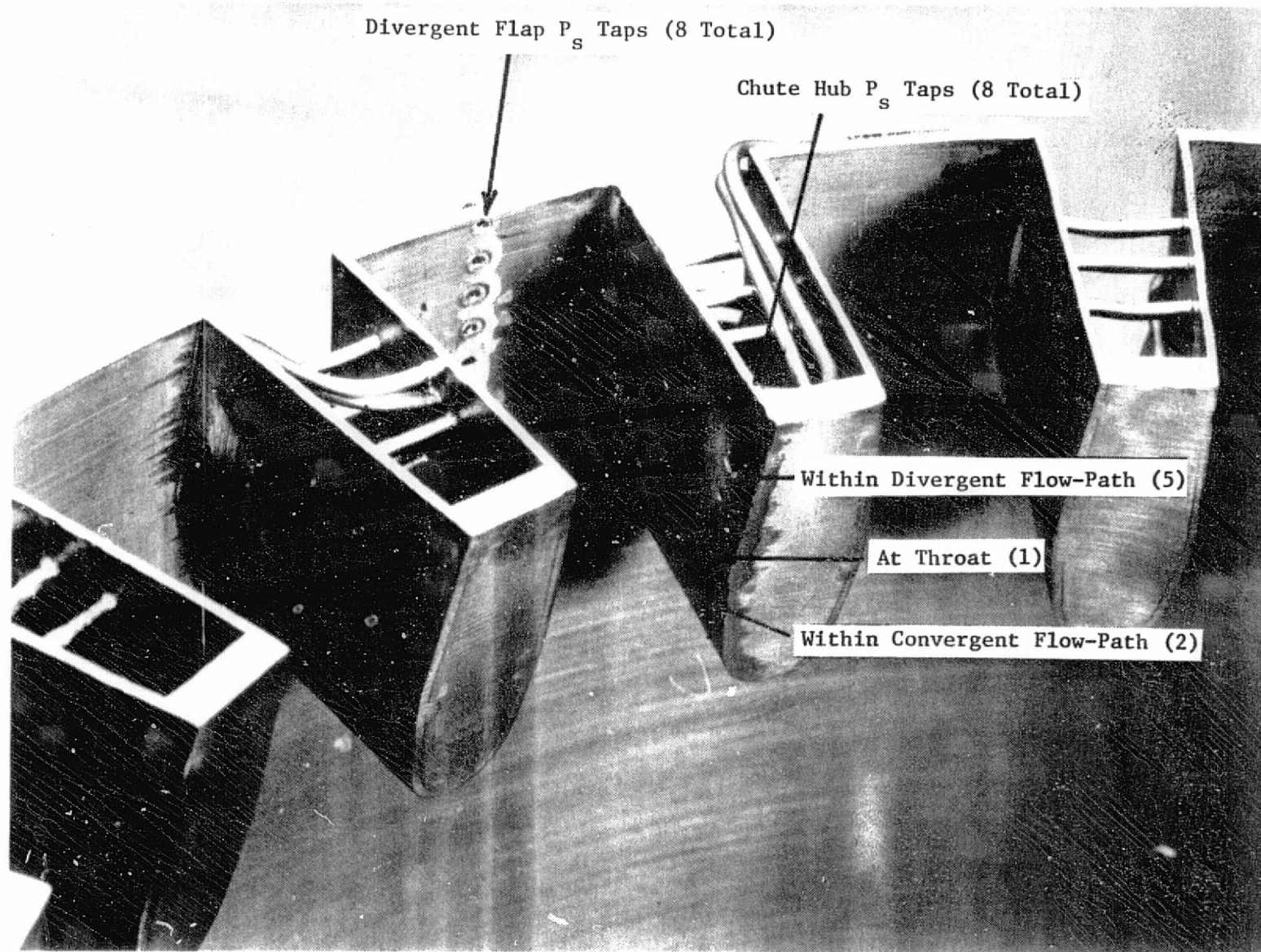


Figure 2-15. Configuration DFSC-5; C-D Flow Passage Static Pressure Instrumentation Application to 20 C-D Chute Suppressor.

### 3.0 TEST POINT DEFINITION

The aerodynamic flow conditions corresponding to the acoustic test points taken on each of the test configurations are tabulated in this section. The data are tabulated in both the International System of Units and in English Units.

#### DEFINITION OF VARIABLES

The presented variables are defined in Table 3-1. Sample sheets specifying the variables listed in the tables that summarize the aerodynamic flow conditions are presented in Table 3-2. In addition to the inner and outer stream flow parameters, the tabulated data contain the mixed stream conditions that were calculated after assuming that the two streams were mixed perfectly. The mixed stream velocity ( $V_j^{mix}$ ) and the mixed stream total temperature ( $T_T^{mix}$ ) were calculated using the following expressions:

$$V_j^{mix} = \frac{V_j^O W^O + V_j^i W^i}{W^O + W^i}$$

and

$$T_T^{mix} = \frac{T_T^O W^O + T_T^i W^i}{W^O + W^i}$$

From the known mixed stream velocity and total temperature, other mixed flow parameters have been calculated by using standard isentropic relations. The ambient pressure and temperature, along with the relative humidity in the GE Anechoic Facility at the time of the test, are presented in these tables.

In addition, the measured far-field PNL data extrapolated to a 731.5-m (2400-ft) sideline and scaled to an AST product size of  $0.903 \text{ m}^2$  ( $1400 \text{ in.}^2$ ) also are presented in the tables that are in English units. The selected data correspond to microphone locations of  $\theta_i = 50^\circ, 60^\circ, 70^\circ, 90^\circ, 120^\circ, 130^\circ$  and  $140^\circ$ .



The normalization factor (NF) found in these tables is employed to normalize the measured perceived noise level (PNL) to a reference thrust as follows:

$$PNLN = \text{Normalized PNL} = PNL + NF$$

where NF is given by  $-10 \log \left( \frac{F}{F_{\text{ref}}} \right) \cdot \left( \frac{\rho}{\rho_{\text{amb}}} \right)^{\omega-1}$

The normalized data are used to determine the dependence of aft angle jet noise on the acoustic Mach number by plotting PNLN against  $10 \log (V_J/a_{\text{amb}})$ .

The aerodynamic flow conditions and the selected PNL data corresponding to the acoustic test points are presented in Tables 3-3 through 3-8.

Table 3-1. Definition of Symbols Used in Aerodynamic Data Tables.

F Total thrust

$F_{ref}$  Reference thrust, 22,820 N (5130 lb)

LVM Defined as  $10 \log (V_j^{mix}/a_{amb})$

LBM Defined as  $10 \log \beta^{eff}$ ,

$$\text{where, } \beta^{eff} = \sqrt{(M_j^{eff})^2 - 1}; \quad M_j^{eff} = \frac{2}{\gamma-1} \left[ (P_r^{eff})^{\frac{\gamma-1}{\gamma}} - 1 \right]; \quad P_r^{eff} = \frac{P_r^o A^o + P_r^i A^i}{A^o + A^i}$$

NF PNL normalization factor; defined as  $-10 \log \left( \frac{F}{F_{ref}} \right) \left( \frac{\rho}{\rho_{amb}} \right)^{\omega-1}$

$P_{amb}$  Ambient pressure

$P_r$  Nozzle pressure ratio

$T_{amb}$  Dry bulb ambient temperature

$T_T$  Nozzle total temperature

$V_{ac}$  Free-jet velocity

$V_j$  Nozzle exhaust velocity (ideal)

W Ideal calculated weight flow rate

(English Units)

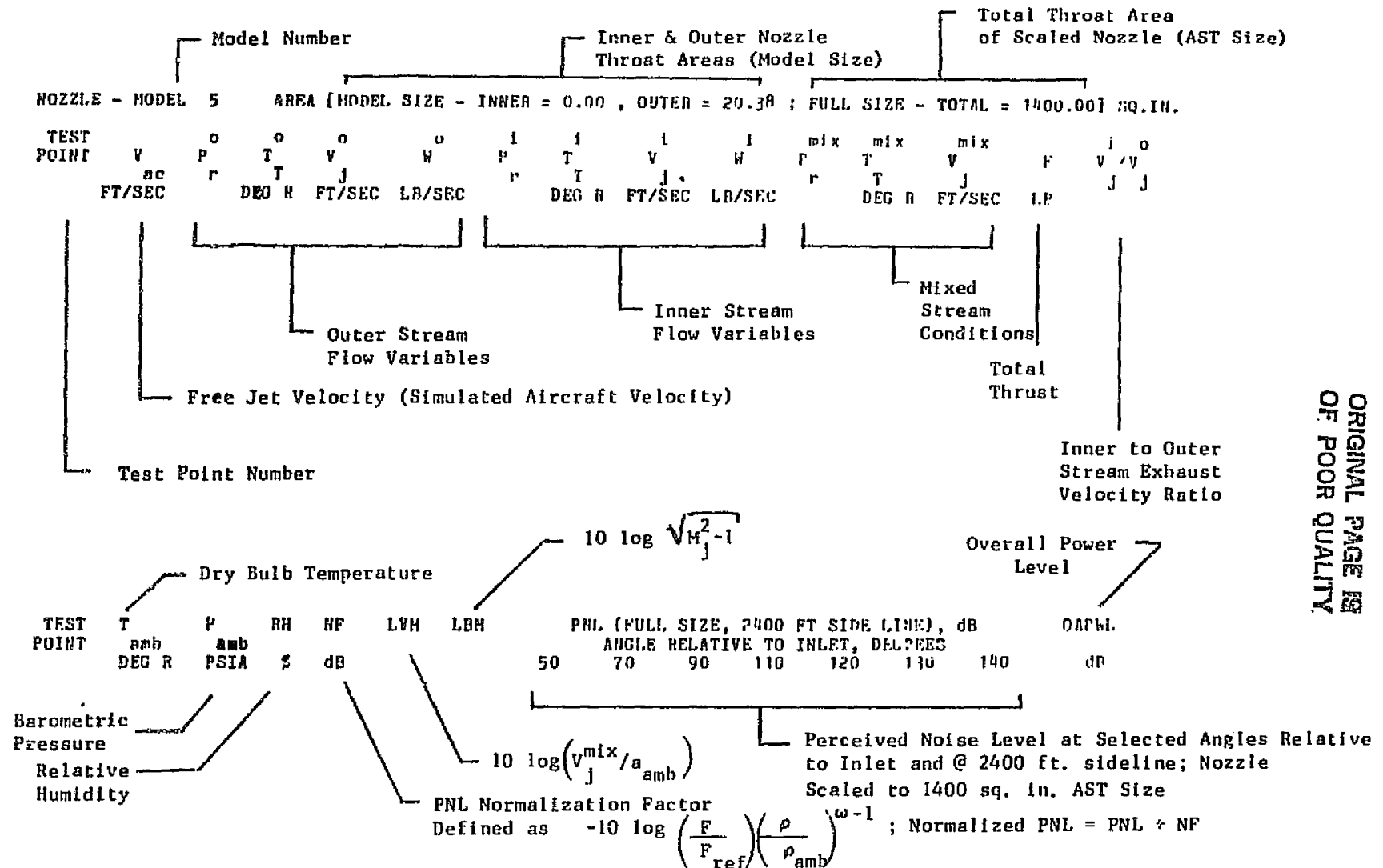


Table 3-2. Description of Aerodynamic Data Sheet.

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(International Units)

		Model Number		Inner & Outer Nozzle Throat Areas (Model Size)										Total Throat Area of Scaled Nozzle (AST Size)							
		NOZZLE - MODEL 8		AREA [MODEL SIZE - INNER = 0.0023 , OUTER = 0.0116 ; FULL SIZE - TOTAL = 0.9031] sq.m.																	
TEST POINT	V <sub>ac</sub>	V <sub>j</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V <sub>j</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	mix V <sub>j</sub>	mix T <sub>T</sub>	mix T <sub>J</sub>	mix P <sub>r</sub>	T <sub>W</sub>	T <sub>F</sub>	i V <sub>j</sub> / o V <sub>j</sub>	
	m/s	m/s	°K	°K		kg/s	N	m/s	°K	°K		kg/s	N	m/s	°K	°K		kg/s	N		
		Outer Stream Flow Variables					Inner Stream Flow Variables					Mixed Stream Conditions					Total Variables				
		Free Jet Velocity (Simulated Aircraft Velocity)																			
		Test Point Number															Inner to Outer Stream Exhaust Velocity Ratio				

Table 3-3. Test Matrix of DFSC-1

Table 3-3. Aerodynamic and Acoustic Test Data - Model DFSC-1.

NOZZLE - MODEL 01 AREA [MODEL SIZE - INNER = 3.44 , OUTER = 18.05 ; FULL SIZE - TOTAL = 1400.00] SQ.IN.

TEST POINT	V <sub>ac</sub>	P <sub>r</sub>	T <sub>T</sub>	V <sub>j</sub>	W	P <sub>r</sub>	T <sub>T</sub>	V <sub>j</sub>	W	P <sub>r</sub>	T <sub>T</sub>	V <sub>j</sub>	W	P <sub>r</sub>	T <sub>T</sub>	F	V/V <sub>j</sub>
	FT/SEC		DEG R	FT/SEC	LB/SEC		DEG R	FT/SEC	LB/SEC		DEG R	FT/SEC	LB/SEC		DEG R	FT/SEC	LB
101	0	1.00	519	0	0.	3.13	846	1681	1135.1	3.13	846	1681	60299	0.00			
102	400	1.00	519	0	0.	3.13	873	1708	1151.6	3.13	873	1708	60427	0.00			
109	0	2.59	1697	2215	558.0	3.12	864	1697	182.6	2.62	1491	2087	48039	0.77			
110	400	2.54	1707	2203	545.4	3.12	868	1701	181.9	2.59	1497	2077	46956	0.77			
111	0	2.80	1697	2294	604.3	3.12	855	1689	183.5	2.80	1501	2153	52724	0.74			
112	400	2.80	1710	2302	601.3	3.12	872	1705	181.8	2.80	1515	2163	52651	0.74			
113	0	3.05	1697	2372	657.4	3.12	853	1686	183.7	3.00	1513	2222	58105	0.71			
114	400	3.05	1702	2378	657.9	3.12	862	1696	182.8	3.01	1519	2230	58273	0.71			
115	0	3.23	1700	2427	695.9	3.12	863	1697	182.5	3.15	1525	2275	62124	0.70			
119	0	3.32	1686	2441	719.2	3.12	855	1688	183.4	3.23	1517	2287	64185	0.69			
120	400	3.33	1699	2452	717.5	3.13	869	1703	182.2	3.23	1530	2300	64331	0.69			
123	0	3.50	1687	2486	757.9	3.12	861	1694	182.7	3.38	1527	2332	68189	0.68			
125	0	3.61	1682	2508	783.5	3.12	865	1698	182.4	3.47	1527	2354	70701	0.68			
126	400	3.62	1696	2519	779.3	3.13	869	1704	182.2	3.47	1539	2364	70663	0.68			
127	0	3.82	1694	2562	824.8	3.13	865	1701	182.9	3.65	1543	2405	75352	0.66			
129	0	4.02	1721	2622	858.4	3.12	876	1710	181.1	3.81	1574	2462	79577	0.65			
130	400	4.01	1695	2600	866.2	3.13	866	1700	182.6	3.80	1550	2443	79653	0.65			
1109	0	2.60	868	1579	794.9	3.13	853	1688	184.1	2.69	865	1599	48670	1.07			
1110	400	2.61	882	1593	791.9	3.13	863	1698	183.1	2.69	878	1612	48876	1.07			
1111	0	2.88	864	1645	882.3	3.13	854	1689	184.0	2.92	862	1653	54783	1.03			

TEST POINT	T <sub>amb</sub>	P <sub>amb</sub>	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB						OAPWL	
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB
101	528.7	14.41	90	-10.1	1.75	-0.17	96.3	99.1	101.2	101.6	95.6	96.9	98.1	176.0
102	537.2	14.42	60	-10.1	1.78	-0.16	99.8	102.9	102.0	102.1	93.9	102.4	95.4	177.0
109	531.7	14.43	82	-6.3	2.68	-1.04	94.3	96.7	98.2	99.5	101.4	104.5	107.2	181.4
110	535.7	14.41	67	-6.3	2.63	-1.14	96.6	97.7	99.1	99.2	98.5	101.8	100.3	177.3
111	531.7	14.43	82	-6.8	2.81	-0.64	94.1	96.5	98.6	100.3	102.8	105.6	107.8	182.0
112	535.7	14.43	67	-6.8	2.79	-0.64	97.9	99.2	100.5	100.0	100.8	103.4	103.1	179.2
113	531.7	14.44	82	-7.2	2.95	-0.28	96.7	99.1	101.0	102.3	104.3	107.6	109.4	183.8
114	535.7	14.43	67	-7.3	2.94	-0.27	98.8	100.6	102.2	102.3	102.8	105.9	104.5	180.8
115	531.7	14.41	82	-7.6	3.04	-0.04	98.6	100.9	103.1	103.9	107.0	108.9	110.8	185.4
119	531.7	14.43	82	-7.8	3.07	0.06	99.1	101.5	103.4	104.7	106.4	108.6	110.8	185.9
120	535.7	14.42	67	-7.8	3.07	0.06	105.3	105.6	106.5	105.2	104.1	107.8	107.0	183.3
123	533.7	14.43	74	-8.1	3.15	0.24	100.6	103.0	105.1	106.4	107.9	110.2	112.1	188.6
125	533.7	14.43	74	-8.3	3.19	0.35	100.5	103.6	105.7	106.8	108.5	110.6	112.9	189.0
126	535.7	14.40	67	-8.3	3.19	0.35	106.1	107.0	108.8	106.3	106.4	109.6	108.6	185.6
127	533.7	14.42	74	-8.6	3.28	0.52	101.2	103.6	105.6	107.1	109.4	111.1	113.0	189.2
129	533.7	14.40	74	-8.8	3.38	0.67	100.2	102.9	105.0	106.6	109.5	111.4	113.6	189.4
130	533.7	14.43	74	-8.9	3.34	0.67	104.4	105.9	107.0	106.6	106.8	110.5	110.0	186.5
1109	528.7	14.41	90	-9.1	1.53	-1.00	96.3	98.2	100.1	99.8	95.3	97.1	98.8	176.5
1110	535.7	14.43	67	-9.1	1.53	-0.99	99.6	100.6	100.9	99.1	91.4	98.1	92.7	176.8
1111	528.7	14.41	90	-9.6	1.67	-0.51	96.5	98.2	100.3	100.7	96.7	98.3	99.6	177.6

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Table 3-3. Continued

## NOZZLE - MODEL 01 CONTINUED

TEST POINT	V ac FT/SEC	P r	T T DEG R	V j FT/SEC	W LB/SEC	P r	T T DEG R	V j FT/SEC	W LB/SEC	P r	T T DEG R	V j FT/SEC	W LB/SEC	F LB	V j FT/SEC	W LB/SEC
1112	400	2.88	868	1649	881.9	3.13	869	1704	182.1	2.92	868	1658	54854	1.03		
1113	0	3.13	874	1708	951.9	3.13	846	1682	184.8	3.13	869	1703	60187	0.98		
1119	0	3.41	864	1753	1043.9	3.13	844	1680	184.5	3.37	861	1741	66497	0.96		
1120	400	3.41	880	1768	1037.3	3.13	866	1701	182.9	3.37	878	1758	66686	0.96		
1123	0	3.59	869	1787	1097.8	3.12	862	1695	182.8	3.51	867	1773	70599	0.95		
1125	0	3.69	863	1797	1133.2	3.12	855	1689	183.7	3.60	862	1782	72950	0.94		
1126	400	3.69	887	1822	1119.4	3.13	869	1704	182.5	3.60	884	1805	73073	0.94		
1127	0	3.93	865	1833	1203.7	3.13	857	1691	183.4	3.80	863	1814	78223	0.92		
1128	400	3.92	886	1855	1188.5	3.13	871	1707	182.3	3.80	884	1835	78202	0.92		

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB	
1112	535.7	14.42	67	-9.7	1.65	-0.51	99.4	100.3	101.4	100.1	93.0	98.9	93.7	177.3	
1113	528.7	14.40	90	-10.0	1.80	-0.17	99.4	101.3	103.4	103.8	98.4	100.0	101.6	179.7	
1119	528.7	14.38	90	-10.6	1.89	0.15	99.9	102.3	104.3	104.7	99.9	101.4	103.1	181.1	
1120	537.2	14.43	60	-10.6	1.90	0.15	106.5	107.6	107.4	105.4	97.4	103.5	98.1	181.8	
1123	528.7	14.42	90	-10.8	1.97	0.32	100.8	103.5	106.1	107.8	101.2	103.5	106.1	183.4	
1125	528.7	14.43	90	-11.0	1.99	0.41	101.3	103.3	105.9	107.3	102.2	103.9	105.7	183.2	
1126	537.2	14.44	60	-11.0	2.02	0.42	108.6	109.9	109.9	107.4	99.6	105.8	99.9	186.1	
1127	528.7	14.42	90	-11.4	2.07	0.60	102.6	104.5	107.0	107.6	102.1	104.0	105.5	183.8	
1128	537.2	14.42	60	-11.3	2.09	0.60	108.7	109.9	110.1	107.6	100.1	106.4	100.4	186.3	

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Table 3-3. Continued

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

NOZZLE - MODEL 01 AREA [MODEL SIZE - INNER = 0.0022 , OUTER = 0.0116 ; FULL SIZE - TOTAL = 0.9031] sq.m.

TEST POINT	V <sub>ac</sub>	V <sub>J</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V <sub>J</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V <sub>J</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V/V <sub>J</sub>
	m/s	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	kg/s	N
101	0.	0.	288.3	288.2	1.0000	0.	0	512.6	470.2	339.4	3.1284	0.0	16763	512.6	258.0	339.4	3.1284	0.	16763	0.00
102	122.	0.	288.3	288.2	1.0000	0.	0	520.8	485.2	350.1	3.1318	0.0	16799	520.8	266.2	350.1	3.1318	0.	16799	0.00
109	0.	675.1	942.0	737.0	2.5856	253.1	10677	517.5	480.1	346.8	3.1210	82.8	2678	636.2	454.6	640.8	2.6246	336.	13355	0.77
110	122.	671.5	948.3	745.4	2.5386	247.4	10380	518.5	482.2	348.4	3.1199	82.5	2673	633.1	456.4	646.1	2.5858	330.	13054	0.77
111	0.	699.2	942.0	721.1	2.8007	274.1	11977	515.1	475.5	343.4	3.1229	83.2	2680	656.3	457.5	633.6	2.7987	357.	14658	0.74
112	122.	701.6	950.0	727.1	2.7971	272.7	11958	519.9	484.6	350.0	3.1218	82.5	2679	659.3	461.9	640.1	2.7971	355.	14637	0.74
113	0.	723.0	942.8	704.7	3.0452	298.2	13477	514.1	474.2	342.6	3.1188	83.3	2676	677.5	461.2	626.6	2.9976	382.	16153	0.71
114	122.	724.8	945.6	706.4	3.0530	298.4	13521	517.0	479.2	346.2	3.1214	82.9	2679	679.7	463.2	629.1	3.0055	381.	16200	0.71
115	0.	739.7	944.4	694.2	3.2316	315.7	14594	517.3	479.7	346.4	3.1229	82.8	2676	693.5	465.1	623.3	3.1530	398.	17271	0.70
119	0.	744.0	936.7	683.1	3.3216	326.2	15169	514.5	475.1	343.3	3.1179	83.2	2674	697.4	462.5	615.5	3.2263	409.	17844	0.69
120	122.	747.4	943.9	688.1	3.3282	325.5	15202	519.3	482.9	348.7	3.1260	82.6	2682	701.2	466.6	620.9	3.2344	408.	17884	0.69
123	0.	757.7	937.2	673.5	3.5024	343.8	16281	516.6	478.7	345.9	3.1193	82.9	2675	711.0	465.4	611.7	3.3773	427.	18957	0.68
125	0.	764.4	934.4	665.2	3.6142	355.4	16977	517.8	480.7	347.3	3.1211	82.7	2678	717.8	465.6	607.1	3.4718	438.	19655	0.68
126	122.	767.8	942.2	670.9	3.6164	353.5	16962	519.5	483.1	348.7	3.1289	82.6	2682	720.7	469.1	611.9	3.4738	436.	19645	0.68
127	0.	780.9	941.1	659.9	3.8225	374.1	18260	518.5	480.9	347.1	3.1316	83.0	2688	733.3	470.6	605.5	3.6450	457.	20948	0.66
129	0.	799.2	956.1	661.9	4.0165	389.4	19446	521.4	486.9	351.7	3.1248	82.1	2676	750.7	479.8	610.6	3.8052	472.	22123	0.65
130	122.	792.5	941.7	651.3	4.0115	392.9	19460	518.3	481.2	347.5	3.1257	82.8	2683	744.7	472.7	601.0	3.8022	476.	22144	0.65
1109	0.	481.3	482.2	367.2	2.5998	360.6	10844	514.7	473.9	342.0	3.1312	83.5	2686	487.5	263.8	362.6	2.6868	444.	13530	1.07
1110	122.	485.5	490.0	372.7	2.6063	359.2	10900	517.8	479.8	346.3	3.1289	83.1	2688	491.6	267.8	367.8	2.6918	442.	13588	1.07
1111	0.	501.4	480.0	354.9	2.8787	400.2	12543	515.1	474.5	342.4	3.1318	83.5	2687	503.8	262.9	352.8	2.9197	484.	15230	1.03

TEST POINT	T <sub>amb</sub> DEG.K	P <sub>amb</sub> Pascal	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPNL	
							50	60	70	90	120	130	140	dB	
101	293.8	99388.	90	-10.1	1.75	-0.17	96.3	99.1	101.2	101.6	95.6	96.9	98.1	176.0	
102	298.5	99452.	60	-10.1	1.78	-0.16	99.8	102.9	102.0	102.1	93.9	102.4	95.4	177.0	
109	295.4	99479.	82	-6.3	2.68	-1.04	94.3	96.7	98.2	99.5	101.4	104.5	107.2	181.4	
110	297.6	99364.	67	-6.3	2.63	-1.14	96.8	97.7	99.1	99.2	98.5	101.8	100.3	177.3	
111	295.4	99465.	82	-6.8	2.81	-0.64	94.1	96.5	98.6	100.3	102.8	105.6	107.8	182.0	
112	297.6	99495.	67	-6.8	2.79	-0.64	97.9	99.2	100.5	100.0	100.8	103.4	103.1	179.2	
113	295.4	99533.	82	-7.2	2.95	-0.28	96.7	99.1	101.0	102.3	104.3	107.6	109.4	183.8	
114	297.6	99513.	67	-7.3	2.94	-0.27	98.8	100.6	102.2	102.3	102.8	105.9	104.5	180.8	
115	295.4	99354.	82	-7.6	3.04	-0.04	98.6	100.9	103.1	103.9	107.0	108.9	110.8	185.4	
119	295.4	99489.	82	-7.8	3.07	0.06	99.1	101.5	103.4	104.7	106.4	108.6	110.8	185.9	
120	297.6	99442.	67	-7.8	3.07	0.06	105.3	105.6	106.5	105.2	104.1	107.8	107.0	183.3	
123	296.5	99459.	74	-8.1	3.15	0.24	100.6	103.0	105.1	106.4	107.9	110.2	112.1	188.6	
125	296.5	99469.	74	-8.3	3.19	0.35	100.5	103.6	105.7	106.8	108.5	110.6	112.9	189.0	
126	297.6	99307.	67	-8.3	3.19	0.35	106.1	107.0	108.8	106.3	106.4	109.6	108.6	185.6	
127	296.5	99398.	74	-8.6	3.28	0.52	101.2	103.6	105.6	107.1	109.4	111.1	113.0	189.2	
129	296.5	99270.	74	-8.8	3.38	0.67	100.2	102.9	105.0	106.6	109.5	111.4	113.6	189.4	
130	296.5	99492.	74	-8.9	3.34	0.67	104.4	105.9	107.0	106.6	106.8	110.5	110.0	186.5	
1109	293.8	99351.	90	-9.1	1.53	-1.00	96.3	98.2	100.1	99.8	95.3	97.1	98.8	176.5	
1110	297.6	99502.	67	-9.1	1.53	-0.99	99.6	100.6	100.9	99.1	91.4	98.1	92.7	176.8	
1111	293.8	99341.	90	-9.6	1.67	-0.51	96.5	98.2	100.3	100.7	96.7	98.3	99.6	177.6	

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Table 3-3. Concluded

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

## NOZZLE - MODEL #1 CONTINUED

TEST POINT	V <sub>ac</sub>	V <sub>j</sub> <sup>o</sup>	T <sub>T</sub> <sup>o</sup>	T <sub>j</sub> <sup>o</sup>	P <sub>r</sub> <sup>o</sup>	W <sup>o</sup>	F <sup>o</sup>	V <sub>j</sub> <sup>i</sup>	T <sub>T</sub> <sup>i</sup>	T <sub>j</sub> <sup>i</sup>	F <sub>r</sub> <sup>i</sup>	W <sup>i</sup>	F <sup>i</sup>	V <sub>j</sub> <sup>mix</sup>	T <sub>T</sub> <sup>mix</sup>	T <sub>j</sub> <sup>mix</sup>	P <sub>r</sub> <sup>mix</sup>	W	F	V <sub>j</sub> <sup>i/o</sup>
	m/s	m/s	K <sup>o</sup>	K <sup>o</sup>		kg/s	N	m/s	K <sup>o</sup>	K <sup>o</sup>		kg/s	N	m/s	K <sup>o</sup>	K <sup>o</sup>		kg/s	N	
1112	122.	502.6	482.2	356.3	2.8813	400.0	12568	519.4	483.2	348.9	3.1255	82.6	2681	505.6	264.6	355.1	2.9208	483.	15250	1.03
1113	0.	520.6	485.6	350.6	3.1250	431.8	14047	512.7	470.2	339.3	3.1319	83.8	2685	519.3	265.0	348.7	3.1259	516.	16732	0.98
1119	0.	534.3	480.0	338.2	3.4122	473.5	15808	512.1	469.4	338.8	3.1284	83.7	2678	530.9	262.6	338.3	3.3673	557.	18487	0.96
1120	122.	538.9	488.9	344.3	3.4114	470.5	15850	518.4	481.2	347.3	3.1311	83.0	2689	535.9	267.6	344.8	3.3671	553.	18539	0.96
1123	0.	544.7	482.8	335.1	3.5879	498.0	16949	516.8	478.9	345.9	3.1218	82.9	2678	540.6	264.5	336.7	3.5149	581.	19627	0.95
1125	0.	547.7	479.4	330.3	3.6913	514.0	17599	515.0	475.1	343.1	3.1248	83.3	2682	543.2	262.8	332.1	3.6030	597.	20281	0.94
1126	122.	555.3	492.8	339.4	3.6931	507.8	17626	519.5	483.1	348.7	3.1280	82.8	2688	550.4	269.7	340.8	3.6050	591.	20315	0.94
1127	0.	558.7	494.6	325.0	3.9264	546.0	19066	515.7	476.4	344.0	3.1250	83.2	2680	553.0	263.3	327.6	3.8029	629.	21747	0.92
1128	122.	565.4	492.2	333.1	3.9233	539.1	19052	520.3	484.3	349.5	3.1311	82.7	2688	559.5	269.5	335.4	3.8011	622.	21741	0.92

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB	
1112	297.6	99418.	67	-9.7	1.65	-0.51	99.4	100.3	101.4	100.1	93.0	98.9	93.7	177.3	
1113	293.8	99277.	90	-10.0	1.80	-0.17	99.4	101.3	103.4	103.8	98.4	100.0	101.6	179.7	
1119	293.8	99172.	90	-10.6	1.89	0.15	99.9	102.3	104.3	104.7	99.9	101.4	103.1	181.1	
1120	298.5	99465.	60	-10.6	1.90	0.15	106.5	107.6	107.4	105.4	97.4	103.5	98.1	181.8	
1123	293.8	99449.	90	-10.8	1.97	0.32	100.8	103.5	106.1	107.8	101.2	103.5	106.1	183.4	
1125	293.8	99462.	90	-11.0	1.99	0.41	101.3	103.3	105.9	107.3	102.2	103.9	105.7	183.2	
1126	298.5	99553.	60	-11.0	2.02	0.42	108.6	109.9	109.9	107.4	99.6	105.8	99.9	186.1	
1127	293.8	99398.	90	-11.4	2.07	0.60	102.6	104.5	107.0	107.6	102.1	104.0	105.5	183.8	
1128	298.5	99429.	60	-11.3	2.09	0.60	108.7	109.9	110.1	107.6	100.1	106.4	100.4	186.3	

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Table 3-4. Test Matrix of DFSC-2

Table 3 -4. Aerodynamic and Acoustic Test Data - Model DFSC-2.

NOZZLE - MODEL 02 AREA (MODEL SIZE - INNER = 3.97 , OUTER = 18.05 ; FULL SIZE - TOTAL = 1400.00) SQ.IN.

TEST POINT	V ac FT/SEC	P r	O T DEG R	O V FT/SEC	O W LB/SEC	I P r	I T DEG R	I V FT/SEC	I W LB/SEC	Mix P r	Mix T DEG R	Mix V FT/SEC	F LB	I V/V j j
201	0	1.00	519	0	0.	3.13	873	1708	1135.1	3.13	873	1708	60259	0.00
202	400	1.00	519	0	0.	3.12	849	1682	1151.6	3.12	849	1682	60219	0.00
205	0	2.22	1691	2046	468.4	3.12	856	1689	206.1	2.34	1435	1937	40615	0.83
209	0	2.53	1704	2198	531.3	3.12	856	1689	206.3	2.59	1466	2055	47118	0.77
210	400	2.52	1708	2194	529.0	3.11	871	1703	204.7	2.58	1474	2057	46915	0.78
211	0	2.81	1683	2288	592.6	3.12	857	1691	206.1	2.81	1469	2133	52969	0.74
212	400	2.77	1696	2281	583.4	3.12	869	1702	205.0	2.77	1481	2130	52203	0.75
213	0	3.04	1695	2370	641.2	3.12	858	1691	205.9	2.99	1491	2205	58057	0.71
214	400	3.07	1702	2382	645.9	3.12	874	1707	204.9	3.01	1502	2219	58690	0.72
215	0	3.23	1680	2412	683.2	3.12	859	1693	206.3	3.14	1489	2245	62066	0.70
216	400	3.23	1702	2429	681.1	3.12	866	1700	205.6	3.15	1508	2260	62288	0.70
217	0	3.27	1685	2427	691.3	3.12	865	1699	205.5	3.18	1497	2260	62991	0.70
218	400	3.27	1712	2446	685.7	3.12	869	1702	205.0	3.17	1517	2274	62974	0.70
219	0	3.32	1679	2436	703.2	3.12	862	1696	205.6	3.22	1494	2268	64087	0.70
220	400	3.33	1695	2450	703.4	3.12	873	1705	204.8	3.23	1509	2282	64415	0.70
221	0	3.40	1687	2461	716.0	3.12	869	1702	204.6	3.28	1505	2292	65582	0.69
222	400	3.40	1691	2463	718.3	3.12	878	1711	204.4	3.28	1510	2296	65864	0.69
223	0	3.49	1676	2475	740.5	3.12	852	1685	206.7	3.36	1495	2302	67795	0.68
224	400	3.51	1697	2495	740.8	3.12	880	1713	204.3	3.37	1520	2326	68322	0.69
225	0	3.63	1684	2512	766.1	3.12	857	1690	206.2	3.46	1508	2337	70653	0.67

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB							OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES							
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB
201	537.7	14.42	79	-10.1	1.78	-0.17	97.1	99.4	100.6	101.9	100.1	101.2	100.1	177.7
202	537.7	14.46	75	-10.1	1.75	-0.18	100.9	102.1	103.0	102.4	100.5	98.1	96.1	176.6
205	537.7	14.42	79	-5.7	2.33	-1.95	94.1	96.7	98.0	99.7	103.3	103.0	105.5	180.3
209	537.7	14.41	79	-6.4	2.59	-1.12	94.1	97.2	99.3	101.0	105.0	106.8	107.4	182.5
210	530.7	14.45	88	-6.3	2.60	-1.16	97.9	99.2	100.2	100.4	103.9	103.0	102.4	177.7
211	537.7	14.38	79	-6.9	2.75	-0.61	98.6	101.1	102.2	103.5	107.0	108.4	109.9	185.1
212	530.7	14.45	88	-6.8	2.75	-0.68	101.7	103.1	104.0	103.3	105.6	106.0	105.1	180.5
213	537.7	14.43	79	-7.4	2.89	-0.26	99.2	102.0	103.7	105.1	108.2	110.5	111.7	186.6
214	530.7	14.46	88	-7.4	2.93	-0.25	104.6	105.9	105.9	104.7	106.9	107.4	107.9	182.7
215	537.7	14.42	79	-7.7	2.97	-0.05	97.8	100.6	102.0	103.9	108.5	111.0	112.0	187.4
216	530.7	14.45	88	-7.6	3.01	-0.05	102.0	103.6	104.3	104.1	107.4	108.2	108.9	182.9
217	537.7	14.42	79	-7.8	3.00	-0.00	97.3	100.0	101.5	103.6	108.6	111.1	112.2	187.0
218	530.7	14.43	88	-7.7	3.03	-0.01	101.2	103.1	103.8	103.7	107.4	109.0	108.6	183.4
219	537.7	14.41	79	-7.9	3.01	0.05	97.2	99.8	101.2	103.5	108.7	111.4	112.5	187.4
220	530.7	14.45	88	-7.8	3.05	0.06	100.7	102.3	103.2	103.1	107.8	108.6	109.1	183.4
221	537.7	14.40	75	-8.0	3.06	0.13	97.0	99.8	101.4	103.6	109.1	111.5	112.9	188.6
222	530.7	14.46	88	-8.0	3.07	0.13	99.9	101.9	102.9	102.5	107.5	109.0	109.3	183.6
223	537.7	14.42	75	-8.2	3.08	0.22	97.7	100.5	102.0	104.2	109.6	111.7	112.6	188.4
224	530.7	14.46	88	-8.1	3.13	0.24	100.9	102.8	103.5	103.2	108.8	109.4	110.0	184.6
225	537.7	14.42	75	-8.3	3.15	0.34	98.7	101.2	102.9	105.1	110.2	112.5	113.3	188.9

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Table 3-4. Continued

## NOZZLE - MODEL 02 CONTINUED

TEST POINT	V ac FT/SEC	P r	T T DEG R	V j FT/SEC	W LB/SEC	P r	T T DEG R	V j FT/SEC	W LB/SEC	P r	T T DEG R	V j FT/SEC	W LB	F LB	V j FT/SEC	W LB
226	400	3.62	1708	2529	760.0	3.13	885	1719	203.6	3.46	1534	2358	70621	0.68		
227	0	3.82	1697	2563	802.9	3.12	860	1694	206.0	3.62	1526	2385	74814	0.66		
228	400	3.81	1715	2577	800.0	3.12	872	1705	205.0	3.61	1543	2399	74936	0.66		
229	0	4.02	1708	2611	840.8	3.12	870	1703	204.1	3.78	1544	2433	79046	0.65		
230	400	4.02	1696	2604	849.6	3.12	873	1706	205.0	3.79	1536	2429	79620	0.66		
231	0	3.16	1690	2400	666.8	3.12	859	1693	206.1	3.09	1494	2233	60587	0.71		
1219	0	3.40	877	1764	1010.7	3.13	851	1687	207.5	3.36	872	1750	66285	0.96		
1220	400	3.41	875	1763	1017.4	3.13	852	1687	207.6	3.36	870	1750	66645	0.96		

TEST POINT	T amb DEG R	P amb PSIA	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL dB
							50	60	70	90	120	130	140	
226	530.7	14.43	88	-8.3	3.19	0.34	101.1	103.0	103.9	104.0	108.8	109.8	110.3	184.7
227	537.7	14.42	75	-8.6	3.24	0.50	99.6	102.4	104.1	106.2	111.3	113.7	113.8	190.3
228	535.2	14.45	76	-8.5	3.26	0.50	103.1	104.6	105.6	105.4	110.2	111.3	111.0	186.9
229	537.7	14.39	75	-8.8	3.32	0.66	101.0	104.1	105.4	107.5	111.8	114.5	114.4	191.1
230	535.2	14.46	76	-8.9	3.32	0.66	105.9	107.3	107.6	106.5	110.9	112.1	111.7	189.0
231	537.7	14.43	75	-7.6	2.95	-0.13	98.9	101.5	102.9	104.5	108.2	110.7	112.2	187.6
1219	537.7	14.41	79	-10.5	1.89	0.14	96.6	98.9	100.3	101.2	102.4	103.2	105.6	181.3
1220	537.7	14.44	75	-10.5	1.91	0.15	102.0	103.1	102.6	100.8	100.8	99.9	99.2	177.5

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Table 3-4. Continued

### 3.1. UNITS

NOZZLE - MODEL #2      AREA (MODEL SIZE - INNER = 0.0026 , OUTER = 0.0116 ; FULL SIZE - TOTAL = 0.9031) sq.in.

[illegible]

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB	
201	298.8	99449.	79	-10.1	1.78	-0.17	97.1	99.4	100.6	101.9	100.1	101.2	100.1	177.7	
202	298.8	99684.	75	-10.1	1.75	-0.18	100.9	102.1	103.0	102.4	100.5	98.1	96.1	176.6	
205	298.8	99408.	79	-5.7	2.33	-1.95	94.1	96.7	98.0	99.7	103.3	103.0	105.5	180.3	
209	298.8	99344.	79	-6.4	2.59	-1.12	94.1	97.2	99.3	101.0	105.0	106.8	107.4	182.5	
210	294.9	99624.	88	-6.3	2.60	-1.16	97.9	99.2	100.2	100.4	103.9	103.0	102.4	177.7	
211	298.8	99162.	79	-6.9	2.75	-0.61	98.6	101.1	102.2	103.5	107.0	108.4	109.9	185.1	
212	294.9	99627.	88	-6.8	2.75	-0.68	101.7	103.1	104.0	103.3	105.6	106.0	105.1	180.5	
213	298.8	99462.	79	-7.4	2.89	-0.28	99.2	102.0	103.7	105.1	108.2	110.5	111.7	186.6	
214	294.9	99678.	88	-7.4	2.93	-0.25	104.6	105.9	105.9	104.7	106.9	107.4	107.9	182.7	
215	298.8	99455.	79	-7.7	2.97	-0.05	97.8	100.6	102.0	103.9	108.5	111.0	112.0	187.4	
216	294.9	99660.	83	-7.6	3.01	-0.05	102.0	103.6	104.3	104.1	107.4	108.2	108.9	182.9	
217	298.8	99449.	79	-7.8	3.00	-0.00	97.3	100.0	101.5	103.6	108.6	111.3	112.2	187.0	
218	294.9	99502.	88	-7.7	3.03	-0.01	101.2	103.1	103.8	103.7	107.4	109.0	108.6	183.4	
219	298.8	99361.	79	-7.9	3.01	0.05	97.2	99.8	101.2	103.5	108.7	111.4	112.5	187.4	
220	294.9	99654.	88	-7.8	3.05	0.06	100.7	102.3	103.2	103.1	107.8	108.6	109.1	183.4	
221	298.8	99260.	75	-8.0	3.06	0.13	97.0	99.8	101.4	103.6	109.1	111.5	112.9	188.6	
222	294.9	99691.	88	-8.0	3.07	0.13	99.9	101.9	102.9	102.5	107.5	109.0	109.3	183.6	
223	298.8	99442.	75	-8.2	3.08	0.22	97.7	100.5	102.0	104.2	109.6	111.7	112.6	188.4	
224	294.9	99684.	88	-8.1	3.13	0.24	100.9	102.8	103.5	103.2	108.8	109.4	110.0	184.6	
225	298.8	99429.	75	-8.3	3.15	0.34	98.7	101.2	102.9	105.1	110.2	112.5	113.3	188.9	

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Table 3-4. Concluded

\*\*\*\*\* S.I.UNITS \*\*\*\*\*

## NOZZLE - MODEL 02 CONTINUED

TEST POINT	V ac	<sup>o</sup> V J	<sup>o</sup> T T	<sup>o</sup> T J	<sup>o</sup> P r	<sup>o</sup> W	<sup>o</sup> F	<sup>i</sup> V J	<sup>i</sup> T T	<sup>i</sup> T J	<sup>i</sup> P r	<sup>i</sup> W	<sup>i</sup> F	<sup>i</sup> V J	mix T T	mix T J	mix P r	W	F	<sup>i</sup> V J	<sup>o</sup> V J
	m/s	m/s	<sup>o</sup> K	<sup>o</sup> K	kg/s	N	m/s	<sup>o</sup> K	<sup>o</sup> K		kg/s	N	m/s	<sup>o</sup> K	<sup>o</sup> K	kg/s	N				
226	122.	770.8	948.9	676.1	3.6201	344.7	16609	524.0	491.8	355.2	3.1254	92.4	3023	718.8	467.7	610.4	3.4624	437.	17633	0.68	
227	0.	781.2	942.8	661.4	3.8162	364.2	17781	516.6	478.2	345.4	3.1232	93.4	3017	727.1	465.2	599.4	3.6167	458.	20799	0.66	
228	122.	785.5	952.8	669.2	3.8140	362.9	17812	519.8	484.7	350.2	3.1194	93.0	3020	731.2	470.5	606.8	3.6146	456.	20833	0.66	
229	0.	795.8	948.9	656.2	4.0178	381.4	18971	519.2	483.6	349.4	3.1182	92.6	3004	741.8	470.7	599.2	3.7811	474.	21975	0.65	
230	122.	793.7	942.2	651.2	4.0250	385.4	19112	520.2	485.3	350.6	3.1205	93.0	3022	740.4	468.3	595.6	3.7898	478.	22135	0.66	
231	0.	731.5	938.9	694.4	3.1599	302.5	13829	516.0	477.6	345.1	3.1197	93.5	3014	680.7	455.4	613.1	3.0874	396.	16844	0.71	
1219	0.	537.7	487.2	343.2	3.4041	458.4	15402	514.3	473.2	341.5	3.1311	94.1	3025	533.6	265.9	342.9	3.3554	553.	18428	0.96	
1220	122.	537.4	486.1	342.2	3.4138	461.5	15501	514.2	473.6	342.0	3.1257	94.2	3026	533.5	265.5	342.2	3.3624	556.	18528	0.96	

TEST POINT	T amb DEG.K	P amb Pascal	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL	
							50	60	70	90	120	130	140	dB	
226	294.9	99516.	88	-8.3	3.19	0.34	101.1	103.0	103.9	104.0	108.8	109.8	110.3	184.7	
227	298.8	99398.	75	-8.6	3.24	0.50	99.6	102.4	104.1	106.2	111.3	113.7	113.8	190.3	
228	297.4	99658.	76	-8.5	3.26	0.50	103.1	104.6	105.6	105.4	110.2	111.3	111.0	186.9	
229	298.8	99193.	75	-8.8	3.32	0.66	101.0	104.1	105.4	107.5	111.8	114.5	114.4	191.1	
230	297.4	99694.	76	-8.9	3.32	0.66	105.9	107.3	107.6	106.5	110.9	112.1	111.7	189.0	
231	298.8	99465.	75	-7.6	2.95	-0.13	98.9	101.5	102.9	104.5	108.2	110.7	112.2	187.6	
1219	298.8	99327.	79	-10.5	1.89	0.14	96.6	98.9	100.3	101.2	102.4	103.2	105.6	181.3	
1220	298.8	99506.	75	-10.5	1.91	0.15	102.0	103.1	102.6	100.8	100.8	99.9	99.2	177.5	

Table 3-5. Test Matrix of DFSC-3

Table 3-5. Aerodynamic and Acoustic Test Data - Model DFSC-3.

NOZZLE - MODEL 03 AREA [MODEL SIZE - INNER = 3.97 , OUTER = 18.05 ; FULL SIZE - TOTAL = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	W	P	T	V	W	P	T	V	W	F	V/V
	ac	r	T	J	LB/SEC	r	T	J	LB/SEC	r	T	J	LB/SEC	LB	J/J
	FT/SEC		DEG R	FT/SEC			DEG R	FT/SEC			DEG R	FT/SEC			
301	0	1.00	519	0	0.	3.13	864	1699	1135.1	3.13	864	1699	60509	0.00	
302	400	1.00	519	0	0.	3.13	877	1712	1151.6	3.13	877	1712	60460	0.00	
311	0	2.80	1692	2289	591.1	3.13	857	1692	207.1	2.80	1475	2134	52943	0.74	
312	400	2.80	1694	2293	591.9	3.13	856	1690	207.3	2.80	1476	2136	52941	0.74	
315	0	3.22	1678	2408	683.3	3.12	865	1700	205.9	3.14	1489	2244	62025	0.71	
316	400	3.23	1688	2418	683.4	3.13	863	1698	206.6	3.15	1496	2250	62249	0.70	
319	0	3.32	1688	2442	702.7	3.13	861	1696	206.6	3.22	1500	2272	64232	0.69	
320	400	3.33	1698	2451	701.7	3.13	875	1710	205.2	3.23	1511	2283	64367	0.70	
321	0	3.39	1685	2459	718.1	3.13	871	1705	205.3	3.28	1504	2291	65757	0.69	
322	400	3.39	1689	2461	717.1	3.13	870	1705	205.5	3.28	1506	2292	65734	0.69	
325	0	3.62	1691	2515	764.0	3.13	872	1707	205.6	3.46	1517	2343	70640	0.68	
326	400	3.62	1692	2517	765.0	3.13	876	1711	204.9	3.46	1520	2346	70749	0.68	
329	0	4.03	1692	2601	850.0	3.13	869	1704	205.7	3.79	1531	2425	79602	0.66	
330	400	4.03	1688	2597	852.2	3.13	866	1701	206.2	3.79	1527	2422	79703	0.65	
331	0	3.16	1683	2396	670.1	3.13	858	1692	207.1	3.09	1488	2230	60798	0.71	
1319	0	3.42	871	1761	1021.0	3.12	854	1688	207.1	3.37	868	1748	66745	0.96	
1320	400	3.42	878	1767	1016.6	3.13	856	1692	207.5	3.37	874	1754	66754	0.96	

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB							OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES							
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB
301	533.7	14.46	58	-10.1	1.77	-0.17	93.6	96.2	98.8	99.7	97.6	97.1	98.3	175.2
302	533.7	14.45	58	-10.0	1.80	-0.17	97.4	98.6	100.7	100.0	98.9	95.8	95.4	174.3
311	530.7	14.45	71	-6.9	2.77	-0.63	97.8	100.2	102.1	102.5	106.7	109.0	110.6	184.3
312	533.7	14.45	58	-6.9	2.76	-0.62	100.9	101.9	103.1	101.9	105.1	105.7	105.4	179.8
315	530.7	14.45	71	-7.7	2.99	-0.06	95.3	97.9	100.3	102.2	108.4	110.9	112.2	186.1
316	533.7	14.46	58	-7.7	2.99	-0.05	99.4	101.2	102.3	101.7	107.0	107.7	108.4	182.1
319	530.7	14.45	71	-7.8	3.04	0.05	95.3	97.6	99.9	102.2	108.6	111.4	112.4	186.4
320	533.7	14.45	58	-7.8	3.04	0.06	97.4	99.2	100.7	101.0	107.4	108.7	108.9	182.7
321	530.7	14.44	71	-7.9	3.07	0.13	96.1	98.6	100.8	102.7	109.0	111.7	112.5	186.6
322	533.7	14.45	58	-7.9	3.06	0.12	97.5	99.7	101.2	100.5	107.4	108.8	109.4	183.1
325	530.7	14.45	71	-8.3	3.18	0.34	99.9	102.3	104.7	106.2	110.0	112.6	113.4	187.8
326	533.7	14.46	58	-8.3	3.16	0.34	103.2	104.6	106.0	105.2	109.0	109.9	110.1	185.1
329	530.7	14.44	71	-8.9	3.32	0.66	103.5	104.8	107.6	109.0	111.8	114.0	114.4	190.0
330	533.7	14.46	58	-8.9	3.31	0.66	108.8	110.2	110.6	109.5	111.4	111.6	111.5	187.8
331	530.7	14.45	71	-7.6	2.96	-0.13	96.6	98.8	101.0	102.7	108.3	111.3	111.9	186.1
1319	530.7	14.45	71	-10.5	1.92	0.15	95.2	97.6	99.6	100.0	102.1	104.2	105.8	181.0
1320	533.7	14.45	58	-10.6	1.90	0.15	96.3	97.5	98.9	97.3	98.9	98.4	97.7	174.9

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Table 3-5. Concluded

5.1. UNITS

NOZZLE - MODEL #3      AREA [MODEL SIZE - INNER = 0.0026 ; OUTER = 0.0116 ; FULL SIZE - TOTAL = 0.9031] sq.in.

TEST POINT	V <sub>ac</sub>	V <sub>j</sub>	T <sub>T</sub>	T <sub>j</sub>	P <sub>r</sub>	W	F	V <sub>j</sub>	T <sub>T</sub>	T <sub>j</sub>	P <sub>r</sub>	W	F	V <sub>mix</sub> j	T <sub>mix</sub> T	T <sub>mix</sub> j	P <sub>mix</sub> r	W	F	V/V <sub>j</sub> j/j	i/o j/j
	m/s*	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N
301	0.	0.	288.3	288.2	1.0000	0.	0	519.0	480.2	346.6	3.1300	0.0	16822	519.0	263.4	346.6	3.1300	0.	16822	0.00	
302	122.	0.	288.3	288.2	1.0000	0.	0	522.0	487.6	351.9	3.1293	0.0	16808	522.0	267.5	351.9	3.1293	0.	16808	0.00	
311	0.	697.7	940.0	718.9	2.7975	268.1	11691	515.8	476.5	344.1	3.1250	93.9	3027	650.5	449.7	622.1	2.7988	362.	14718	0.74	
312	122.	698.9	941.1	719.6	2.8042	268.5	11729	515.3	475.6	343.4	3.1259	94.0	3028	651.3	450.1	622.5	2.8037	363.	14757	0.74	
315	0.	734.0	932.2	685.4	3.2215	309.9	14219	518.2	481.1	347.4	3.1242	93.4	3024	684.1	454.1	608.4	3.1403	403.	17243	0.71	
316	122.	737.0	937.8	689.2	3.2293	310.0	14275	517.6	479.6	346.3	3.1269	93.7	3030	686.0	456.1	610.9	3.1453	404.	17306	0.70	
319	0.	744.3	937.8	683.8	3.3221	318.7	14828	517.0	478.7	345.7	3.1263	93.7	3028	692.7	457.2	608.5	3.2193	412.	17857	0.69	
320	122.	747.1	943.3	687.9	3.3275	318.3	14862	521.2	486.2	350.9	3.1290	93.1	3032	696.0	460.8	613.2	3.2258	411.	17894	0.70	
321	0.	749.5	936.1	678.6	3.3948	325.7	15256	519.7	483.9	349.4	3.1251	93.1	3025	698.4	458.5	607.0	3.2800	419.	18281	0.69	
322	122.	750.1	938.3	680.2	3.3918	325.3	15246	519.7	483.7	349.3	3.1261	93.2	3028	698.7	459.2	608.1	3.2772	418.	18274	0.69	
325	0.	766.6	939.4	669.1	3.6159	346.5	16606	520.3	484.5	349.7	3.1292	93.3	3032	714.4	462.5	603.5	3.4587	440.	19638	0.68	
326	122.	767.2	940.0	669.4	3.6202	347.0	16639	521.5	487.1	351.7	3.1263	92.9	3030	715.3	463.3	604.3	3.4627	440.	19669	0.68	
329	0.	792.8	940.0	649.3	4.0268	385.6	19100	519.5	483.1	348.7	3.1289	93.3	3030	739.4	466.9	593.6	3.7920	479.	22130	0.66	
330	122.	791.6	937.8	647.5	4.0281	386.6	19127	518.5	481.3	347.4	3.1277	93.5	3031	738.5	465.7	591.9	3.7927	480.	22158	0.65	
331	0.	730.3	935.0	691.1	3.1631	304.0	13874	515.9	476.7	344.2	3.1260	93.9	3028	679.7	453.6	610.4	3.0915	398.	16902	0.71	
1319	0.	536.8	483.9	340.8	3.4180	463.1	15534	514.6	474.8	342.9	3.1213	93.9	3022	532.9	264.7	341.2	3.3652	557.	18556	0.96	
1320	122.	538.6	487.8	343.4	3.4166	461.1	15524	515.8	475.9	343.5	3.1309	94.1	3034	534.8	266.5	343.4	3.3656	555.	18558	0.96	

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB	
301	296.5	99664.	58	-10.1	1.77	-0.17	93.6	96.2	98.8	99.7	97.6	97.1	98.3	175.2	
302	296.5	99610.	58	-10.0	1.80	-0.17	97.4	98.6	100.7	100.0	98.9	95.8	95.4	174.3	
311	294.9	99647.	71	-6.9	2.77	-0.63	97.8	100.2	102.1	102.5	106.7	109.0	110.6	184.3	
312	296.5	99631.	58	-6.9	2.76	-0.62	100.9	101.9	103.1	101.9	105.1	105.7	105.4	179.8	
315	294.9	99603.	71	-7.7	2.99	-0.06	95.3	97.9	100.3	102.2	108.4	110.9	112.2	186.1	
316	296.5	99674.	58	-7.7	2.99	-0.05	99.4	101.2	102.3	101.7	107.0	107.7	108.4	182.1	
319	294.9	99637.	71	-7.8	3.04	0.05	95.3	97.6	99.9	102.2	108.6	111.4	112.4	186.4	
320	296.5	99647.	58	-7.8	3.04	0.06	97.4	99.2	100.7	101.0	107.4	108.7	108.9	182.7	
321	294.9	99563.	71	-7.9	3.07	0.13	96.1	98.6	100.8	102.7	109.0	111.7	112.5	186.6	
322	296.5	99624.	58	-7.9	3.06	0.12	97.5	99.7	101.2	100.5	107.4	108.0	109.4	183.1	
325	294.9	99640.	71	-8.3	3.18	0.34	99.9	102.3	104.7	106.2	110.0	112.6	113.4	187.8	
326	296.5	99681.	58	-8.3	3.16	0.34	103.2	104.6	106.0	105.2	109.0	109.9	110.1	185.1	
329	294.9	99570.	71	-8.9	3.32	0.66	103.5	104.8	107.6	109.0	111.8	114.0	114.4	190.0	
330	296.5	99667.	58	-8.9	3.31	0.66	108.8	110.2	110.6	109.5	111.4	111.6	111.5	187.8	
331	294.9	99644.	71	-7.6	2.96	-0.13	96.6	98.8	101.0	102.7	108.3	111.3	111.9	186.1	
1319	294.9	99631.	71	-10.5	1.92	0.15	95.2	97.6	99.6	100.0	102.1	104.2	105.8	181.0	
1320	296.5	99624.	58	-10.6	1.90	0.15	96.3	97.5	98.9	97.3	98.9	98.4	97.7	174.9	

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Table 3-6. Test Matrix of DFSC-4

Table 3-6. Aerodynamic and Acoustic Test Data - Model DFSC-4.

NOZZLE - MODEL 04 AREA [MODEL SIZE - INNER = 3.99 , OUTER = 20.36 ; FULL SIZE - TOTAL = 1400.00] SQ.IN.

TEST POINT	V <sub>ac</sub> FT/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB	F	V/V <sub>j</sub>
401	0	1.98	1714	1920	424.2	2.90	851	1637	175.4	2.10	1461	1837	34241	0.85	
403	0	2.02	1722	1948	430.7	2.90	865	1651	173.9	2.13	1475	1862	35002	0.85	
404	400	2.09	1722	1992	446.7	2.90	858	1645	174.9	2.19	1479	1894	36597	0.83	
405	0	2.22	1711	2059	476.7	2.90	864	1650	174.1	2.30	1484	1949	39444	0.80	
407	0	2.38	1707	2132	510.9	2.90	868	1654	173.9	2.42	1493	2011	42800	0.78	
408	400	2.37	1714	2135	509.5	2.90	855	1642	175.5	2.42	1494	2009	42772	0.77	
409	0	2.53	1716	2210	544.5	2.90	871	1656	173.5	2.56	1511	2076	46329	0.75	
411	0	2.80	1720	2311	599.1	2.90	862	1648	174.2	2.77	1527	2161	51951	0.71	
412	400	2.79	1710	2300	599.4	2.91	857	1645	175.4	2.76	1516	2151	51807	0.72	
413	0	3.05	1711	2384	654.2	2.90	871	1656	173.3	2.97	1535	2231	57386	0.70	
415	0	3.14	1715	2411	672.1	2.90	872	1658	173.4	3.04	1541	2256	59312	0.69	
416	400	3.14	1708	2407	673.9	2.91	866	1654	174.6	3.04	1535	2251	59393	0.69	
417	0	3.32	1695	2447	714.9	2.90	874	1660	173.0	3.20	1534	2293	63296	0.68	
419	0	4.04	1727	2631	862.0	2.90	876	1662	173.0	3.79	1585	2468	79422	0.63	
420	400	4.03	1747	2644	855.6	2.91	869	1656	174.3	3.78	1598	2476	79279	0.63	
1401	0	2.01	845	1357	624.0	2.93	850	1643	177.3	2.17	846	1420	35379	1.21	
1403	0	2.16	854	1424	665.8	2.93	855	1647	176.8	2.29	854	1470	38512	1.16	
1404	400	2.14	869	1428	654.6	2.90	853	1641	175.6	2.27	865	1473	38017	1.15	
1405	0	2.29	847	1466	710.5	2.93	834	1627	178.9	2.40	844	1498	41417	1.11	
1407	0	2.45	859	1526	752.6	2.92	859	1651	176.2	2.53	859	1549	44736	1.08	

TEST POINT	T <sub>amb</sub> DEG R	P <sub>amb</sub> PSIA	RH %	NP dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL dB
							50	60	70	90	120	130	140	
401	539.7	14.48	76	-4.9	2.08	-3.44	87.9	91.0	93.3	96.5	98.5	97.4	95.9	174.1
403	539.7	14.46	76	-4.9	2.14	-3.18	88.1	91.0	93.6	96.7	98.7	97.9	96.9	174.4
404	542.7	14.48	66	-5.1	2.22	-2.76	91.4	93.6	94.9	97.2	98.8	96.5	92.7	173.1
405	539.7	14.47	76	-5.4	2.33	-2.16	89.0	92.2	94.6	97.6	100.1	99.1	98.0	176.1
407	539.7	14.48	76	-5.8	2.47	-1.64	90.7	93.8	96.4	99.2	100.9	100.2	98.5	177.6
408	542.7	14.50	66	-5.8	2.48	-1.66	95.0	96.4	97.3	99.3	101.0	99.1	95.5	175.8
409	539.7	14.47	76	-6.2	2.61	-1.22	92.1	95.2	97.7	100.2	101.8	101.4	99.4	178.6
411	542.7	14.46	66	-6.7	2.78	-0.71	93.9	97.7	99.9	101.9	103.0	102.5	100.2	181.0
412	538.7	14.48	72	-6.7	2.77	-0.72	98.4	101.1	101.9	102.7	103.6	101.8	98.9	179.4
413	542.7	14.47	66	-7.2	2.93	-0.33	95.1	99.1	101.4	103.0	103.9	103.7	101.5	182.5
415	542.7	14.48	66	-7.4	2.97	-0.21	95.7	99.5	101.7	103.5	104.1	103.6	101.4	182.7
416	538.7	14.49	72	-7.4	2.96	-0.21	100.4	103.1	104.1	103.9	104.9	103.6	100.4	181.3
417	542.7	14.44	66	-7.7	3.05	0.01	96.0	100.0	102.4	104.0	104.5	104.4	102.7	183.3
419	542.7	14.47	66	-8.8	3.37	0.65	97.4	101.0	103.3	105.3	106.7	107.0	107.2	185.5
420	538.7	14.48	72	-8.8	3.36	0.65	101.1	103.6	105.0	105.6	107.2	105.6	103.0	183.0
1401	536.2	14.46	83	-8.0	0.98	-3.15	85.2	88.4	90.1	92.0	92.1	90.9	88.5	168.1
1403	536.2	14.48	83	-8.3	1.13	-2.40	87.0	90.2	92.0	94.1	93.5	92.1	89.9	169.8
1404	543.7	14.48	44	-8.2	1.11	-2.50	89.6	91.1	91.7	93.5	91.5	88.0	83.3	169.8
1405	536.2	14.47	83	-8.6	1.21	-1.89	88.9	91.7	93.6	95.7	94.2	92.8	91.0	171.2
1407	536.2	14.48	83	-8.8	1.36	-1.44	90.3	93.7	95.5	97.7	95.3	94.2	92.1	173.2

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Table 3-6. Continued

## NOZZLE - MODEL 04 CONTINUED

TEST POINT	V	P	T	V	W	P	T	V	W	P	T	V	W	F	V/V
	ac	r	T	J	W	r	T	J	W	r	T	J	W	LB	J/J
	FT/SEC	DEG R	FT/SEC	LB/SEC		DEG R	FT/SEC	LB/SEC		DEG R	FT/SEC	LB			
1408	400	2.45	868	1533	749.0	2.90	853	1640	175.6	2.52	864	1553	44640	1.07	
1409	0	2.61	849	1564	807.0	2.93	851	1644	177.2	2.66	849	1578	48287	1.05	
1411	0	2.88	854	1636	887.5	2.92	853	1643	176.1	2.89	853	1636	54111	1.01	
1412	400	2.88	865	1646	884.1	2.91	847	1635	176.5	2.89	861	1644	54212	0.99	
1413	0	3.13	859	1695	963.1	2.91	858	1646	175.3	3.10	859	1687	59710	0.97	
1415	0	3.22	844	1697	999.7	2.90	848	1634	175.5	3.17	844	1688	61655	0.96	
1416	400	3.22	871	1725	984.9	2.91	846	1634	176.5	3.17	867	1711	61770	0.95	
1417	0	3.41	845	1732	1055.3	2.89	851	1636	175.0	3.32	845	1718	65700	0.94	
1419	0	4.15	851	1848	1280.9	2.90	854	1640	175.0	3.96	851	1822	82491	0.89	
1420	400	4.15	892	1892	1251.9	2.91	853	1642	176.1	3.96	887	1861	82607	0.87	

TEST POINT	T amb	P amb	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB						OAPWL	
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB
1408	543.7	14.49	44	-8.9	1.34	-1.46	94.6	96.2	97.2	97.9	94.7	91.0	86.1	173.7
1409	536.2	14.47	83	-9.2	1.44	-1.06	91.7	95.6	97.0	99.1	96.2	94.7	92.9	174.6
1411	536.2	14.47	83	-9.7	1.59	-0.57	93.5	97.4	99.5	101.0	98.2	96.9	94.8	176.8
1412	542.7	14.49	53	-9.7	1.59	-0.57	98.2	100.7	101.4	101.4	98.7	94.7	89.7	177.7
1413	536.2	14.48	83	-10.1	1.72	-0.22	94.8	98.3	100.8	102.0	99.4	97.7	96.1	178.2
1415	539.7	14.47	76	-10.4	1.72	-0.11	95.1	98.7	101.1	102.5	99.7	98.0	96.3	178.7
1416	542.7	14.48	53	-10.3	1.76	-0.10	99.8	102.2	103.1	102.9	100.7	96.9	92.4	179.4
1417	539.7	14.46	76	-10.7	1.79	0.10	95.6	99.2	101.5	103.0	100.3	98.4	96.8	179.3
1419	539.7	14.46	76	-11.8	2.05	0.73	96.7	100.4	102.5	103.8	102.2	101.1	99.2	180.4
1420	542.7	14.49	53	-11.6	2.12	0.73	101.8	104.0	104.6	105.2	103.2	101.1	96.8	181.6

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Table 3-6. Continued

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

NOZZLE - MODEL 04 AREA [MODEL SIZE - INNER = 0.0026 , OUTER = 0.0131 ; FULL SIZE - TOTAL = 0.9031] sq.m.

TEST POINT	V ac	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W	F	V mix j	T mix T	T mix j	P mix r	W	F	V i /V j j	
	m/s	m/s	K	K	ks/s	N	m/s	K	K	ks/s	N	m/s	K	K	ks/s	N	m/s	K	K	ks/s	N
401	0.	585.2	952.2	800.3	1.9787	192.4	7037	499.1	472.9	348.9	2.8981	79.6	2482	560.0	445.5	667.7	2.0974	272.	9519	0.85	
403	0.	593.8	956.7	800.3	2.0159	195.4	7249	503.4	480.9	354.8	2.8999	78.9	2481	567.8	449.8	671.7	2.1288	274.	9731	0.85	
404	122.	607.2	956.7	792.7	2.0880	202.6	7687	501.6	477.2	351.9	2.9021	79.3	2487	577.4	450.8	668.2	2.1866	282.	10174	0.83	
405	0.	627.6	950.6	774.4	2.2220	216.2	8481	503.2	480.4	354.4	2.9002	79.0	2484	594.3	452.5	661.8	2.2960	295.	10965	0.80	
407	0.	649.0	948.3	758.6	2.3774	231.7	9412	504.3	482.4	355.8	2.9013	78.9	2486	613.0	455.3	656.3	2.4227	311.	11898	0.78	
408	122.	650.7	952.2	762.4	2.3735	231.1	9401	500.6	475.3	350.6	2.9019	79.6	2489	612.4	455.4	656.9	2.4173	311.	11891	0.77	
409	0.	673.6	953.3	748.9	2.5425	247.0	10396	505.0	483.9	356.9	2.9010	78.7	2483	632.8	460.7	654.6	2.5562	326.	12080	0.75	
411	0.	704.4	955.6	731.4	2.8024	271.7	11960	502.6	479.3	353.6	2.9006	79.0	2482	658.8	465.4	647.3	2.7659	351.	14443	0.71	
412	122.	701.0	950.0	727.6	2.7909	271.9	11910	501.4	476.3	351.2	2.9062	79.6	2492	655.7	462.4	643.3	2.7574	351.	14403	0.72	
413	0.	726.6	950.6	710.7	3.0491	296.7	13473	505.0	484.4	357.4	2.8973	78.6	2480	680.1	468.0	638.2	2.9697	375.	15954	0.70	
415	0.	734.9	952.8	706.6	3.1358	304.9	14005	505.4	484.7	357.6	2.9000	78.7	2484	687.9	470.0	636.8	3.0411	384.	16489	0.69	
416	122.	733.7	948.9	703.9	3.1354	305.7	14015	504.2	481.4	354.8	2.9084	79.2	2496	686.4	467.9	633.7	3.0414	385.	16512	0.69	
417	0.	745.8	941.7	686.7	3.3218	324.3	15115	506.0	485.7	358.2	2.9021	78.5	2481	699.2	467.8	624.7	3.1970	403.	17597	0.68	
419	0.	801.9	959.4	663.3	4.0389	391.0	19594	506.8	487.1	359.3	2.9018	78.5	2485	752.5	483.2	615.9	3.7903	469.	22080	0.63	
420	122.	805.9	970.6	671.8	4.0285	388.1	19546	505.0	482.9	355.9	2.9076	79.1	2494	754.9	487.1	621.9	3.7780	467.	22040	0.63	
1401	0.	413.6	469.4	384.5	2.0148	203.0	7317	501.1	472.6	347.7	2.9296	80.4	2517	433.0	258.0	377.0	2.1690	363.	9835	1.21	
1403	0.	434.0	474.4	380.9	2.1591	302.0	8188	502.2	475.1	349.6	2.9276	80.2	2517	448.2	260.5	374.8	2.2885	382.	10706	1.16	
1404	122.	435.3	482.8	380.4	2.1406	296.9	8078	500.3	474.3	349.8	2.9047	79.7	2490	449.1	263.9	380.6	2.2691	377.	10569	1.15	
1405	0.	446.8	470.6	370.9	2.2943	322.3	8997	496.1	463.6	341.1	2.9274	81.1	2516	456.7	257.3	365.1	2.4005	403.	11514	1.11	
1407	0.	465.1	477.2	369.5	2.4475	341.4	9923	503.3	477.5	351.4	2.9243	79.9	2513	472.3	261.8	366.2	2.5271	421.	12437	1.08	

TEST POINT	T amb DEG.K	P amb Pascal	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL dB	
							50	60	70	90	120	130	140		
401	299.9	99815.	76	-4.9	2.08	-3.44	87.9	91.0	93.3	96.5	98.5	97.4	95.9	174.1	
403	299.9	99704.	76	-4.9	2.14	-3.18	88.1	91.0	93.6	96.7	98.7	97.9	96.9	174.4	
404	301.5	99829.	66	-5.1	2.22	-2.76	91.4	93.6	94.9	97.2	98.8	96.5	92.7	173.1	
405	299.9	99785.	76	-5.4	2.33	-2.16	89.0	92.2	94.6	97.6	100.1	99.1	98.0	176.1	
407	299.9	99812.	76	-5.8	2.47	-1.64	90.7	93.8	96.4	99.2	100.9	100.2	98.5	177.6	
408	301.5	99940.	66	-5.8	2.48	-1.66	95.0	96.4	97.3	99.3	101.0	99.1	95.5	175.8	
409	299.9	99742.	76	-6.2	2.61	-1.22	92.1	95.2	97.7	100.2	101.8	101.4	99.4	178.6	
411	301.5	99704.	66	-6.7	2.78	-0.71	93.9	97.7	99.9	101.9	103.0	102.5	100.2	181.0	
412	299.3	99860.	72	-6.7	2.77	-0.72	98.4	101.1	101.9	102.7	103.6	101.8	98.9	179.4	
413	301.5	99792.	66	-7.2	2.93	-0.33	95.1	99.1	101.4	103.0	103.9	103.7	101.5	182.5	
415	301.5	99802.	66	-7.4	2.97	-0.21	95.7	99.5	101.7	103.5	104.1	103.6	101.4	182.7	
416	299.3	99893.	72	-7.4	2.96	-0.21	100.4	103.1	104.1	103.9	104.9	103.6	100.4	181.3	
417	301.5	99586.	66	-7.7	3.05	0.01	96.0	100.0	102.4	104.0	104.5	104.4	102.7	183.3	
419	301.5	99765.	66	-8.8	3.37	0.65	97.4	101.0	103.3	105.3	106.7	107.0	107.2	185.5	
420	299.3	99856.	72	-8.8	3.36	0.65	101.1	103.6	105.0	105.6	107.2	105.6	103.0	183.0	
1401	297.9	99731.	83	-8.0	0.98	-3.15	85.2	88.4	90.1	92.0	92.1	90.9	88.5	168.1	
1403	297.9	99826.	83	-8.3	1.13	-2.40	87.0	90.2	92.0	94.1	93.5	92.1	89.9	169.8	
1404	302.1	99835.	44	-8.2	1.11	-2.50	89.6	91.1	91.7	93.5	91.5	88.0	83.3	169.8	
1405	297.9	99792.	83	-8.6	1.21	-1.89	88.9	91.7	93.6	95.7	94.2	92.8	91.0	171.2	
1407	297.9	99819.	83	-8.8	1.36	-1.44	90.3	93.7	95.5	97.7	95.3	94.2	92.1	173.2	

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Table 3-6. Concluded

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## NOZZLE - MODEL #4 CONTINUED

[illegible]

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB	
1408	302.1	99920.	44	-8.9	1.34	-1.46	94.6	96.2	97.2	97.9	94.7	91.0	86.1	173.7	
1409	297.9	99789.	83	-9.2	1.44	-1.06	91.7	95.6	97.0	99.1	96.2	94.7	92.9	174.6	
1411	297.9	99735.	83	-9.7	1.59	-0.57	93.5	97.4	99.5	101.0	98.2	96.9	94.8	176.8	
1412	301.5	99910.	53	-9.7	1.59	-0.57	98.2	100.7	101.4	101.4	98.7	94.7	89.7	177.7	
1413	297.9	99812.	83	-10.1	1.72	-0.22	94.8	98.3	100.8	102.0	99.4	97.7	96.1	178.2	
1415	299.9	99772.	76	-10.4	1.72	-0.11	95.1	98.7	101.1	102.5	99.7	98.0	96.3	178.7	
1416	301.5	99835.	53	-10.3	1.76	-0.10	99.8	102.2	103.1	102.9	100.7	96.9	92.4	179.4	
1417	299.9	99717.	76	-10.7	1.79	0.10	95.6	99.2	101.5	103.0	100.3	98.4	96.8	179.3	
1419	299.9	99717.	76	-11.8	2.05	0.73	96.7	100.4	102.5	103.8	102.2	101.1	99.2	180.4	
1420	301.5	99883.	53	-11.6	2.12	0.73	101.8	104.0	104.6	105.2	103.2	101.1	96.8	181.6	

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Table 3-7. Test Matrix of DFSC-5

Table 3-7. Aerodynamic and Acoustic Test Data - Model DFSC-5.

NOZZLE - MODEL 05 AREA [MODEL SIZE - INNER = 4.05 , OUTER = 20.23 ; FULL SIZE - TOTAL = 1400.00] SQ.IN.

TEST POINT	V ac FT/SEC	P r	O T DEG R	O V FT/SEC	O W LB/SEC	I P r	I T DEG R	I V FT/SEC	I W LB/SEC	mix P r	mix T DEG R	mix V FT/SEC	F LB	I O V/V J J
501	0	2.73	1700	2273	587.7	2.91	884	1672	176.3	2.72	1512	2134	50683	0.74
502	400	2.71	1710	2272	580.2	2.91	852	1640	178.9	2.69	1507	2122	50084	0.72
505	0	2.96	1727	2367	629.9	2.92	848	1639	180.1	2.89	1531	2205	55519	0.69
506	400	2.96	1715	2359	632.8	2.91	848	1637	179.4	2.89	1523	2199	55521	0.69
507	0	3.03	1728	2389	644.9	2.92	846	1636	180.4	2.95	1535	2224	57074	0.69
508	400	3.03	1716	2380	647.2	2.91	849	1637	179.3	2.95	1527	2218	57003	0.69
509	0	3.08	1723	2401	656.4	2.92	849	1640	180.1	2.99	1534	2236	58152	0.68
510	400	3.08	1724	2401	657.1	2.90	853	1641	178.8	2.99	1537	2238	58165	0.68
511	0	3.13	1725	2419	667.1	2.92	852	1644	179.6	3.04	1540	2254	59336	0.68
512	400	3.13	1718	2412	668.2	2.91	857	1646	178.7	3.03	1536	2250	59244	0.68
513	0	3.18	1710	2421	680.7	2.91	861	1648	178.0	3.08	1534	2260	60339	0.68
514	400	3.18	1724	2431	679.3	2.91	856	1644	178.6	3.07	1543	2267	60455	0.68
515	0	3.23	1711	2435	691.3	2.91	849	1638	179.4	3.12	1533	2271	61464	0.67
516	400	3.23	1724	2444	689.5	2.91	858	1646	178.5	3.11	1545	2280	61517	0.67
517	0	3.32	1707	2456	711.6	2.91	850	1639	179.3	3.19	1534	2292	63465	0.67
518	400	3.32	1726	2470	708.1	2.91	865	1653	177.8	3.19	1553	2306	63502	0.67
519	0	3.52	1723	2518	750.5	2.91	867	1656	177.5	3.36	1559	2353	67879	0.66
520	400	3.53	1742	2533	748.4	2.91	874	1661	176.9	3.36	1576	2366	68065	0.66
1511	0	3.23	877	1732	980.0	2.91	861	1651	178.6	3.18	874	1719	61909	0.95
1514	400	3.22	876	1729	978.6	2.91	837	1627	181.1	3.17	870	1712	61742	0.94

TEST POINT	T amb. DEG R	P amb PSIA	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL dB
							50	60	70	90	120	130	140	
501	536.7	14.50	79	-6.6	2.75	-0.82	93.4	97.6	99.1	101.1	102.6	103.4	104.3	180.7
502	533.7	14.48	70	-6.5	2.73	-0.86	97.3	99.9	98.9	101.2	101.2	102.3	97.5	176.9
505	531.7	14.48	91	-6.9	2.92	-0.45	94.0	97.2	98.2	101.8	103.2	107.2	106.4	181.6
506	533.7	14.48	70	-7.0	2.89	-0.45	97.9	101.0	101.2	102.1	102.6	103.7	99.9	178.5
507	531.7	14.49	91	-7.1	2.95	-0.35	94.2	97.4	99.0	102.1	103.6	107.7	107.2	182.4
508	533.7	14.49	70	-7.1	2.93	-0.36	98.3	100.9	100.3	102.3	102.6	104.0	100.2	178.7
509	531.7	14.48	91	-7.2	2.98	-0.28	94.7	97.5	98.9	102.0	103.6	107.6	106.9	182.3
510	533.7	14.50	70	-7.2	2.97	-0.29	98.3	100.8	100.8	102.7	103.2	104.4	100.7	179.1
511	531.7	14.47	91	-7.3	3.01	-0.21	95.1	97.7	99.2	102.2	103.9	108.3	107.3	182.4
512	533.7	14.48	70	-7.3	3.00	-0.22	98.7	101.2	101.2	102.6	103.5	104.8	101.3	179.5
513	531.7	14.49	91	-7.4	3.02	-0.16	95.0	97.3	98.2	101.9	104.1	108.2	108.1	182.8
514	533.7	14.50	70	-7.4	3.03	-0.16	99.1	101.7	100.6	103.0	103.3	105.3	101.6	179.6
515	531.7	14.48	91	-7.5	3.04	-0.09	95.3	97.7	98.3	102.2	104.5	108.5	108.2	182.9
516	533.7	14.50	70	-7.5	3.05	-0.10	98.8	101.3	100.9	102.8	103.9	105.4	101.9	179.7
517	531.7	14.48	91	-7.7	3.08	0.01	96.0	98.4	98.9	102.7	104.7	109.0	108.8	183.5
518	533.7	14.50	70	-7.6	3.10	0.01	99.2	102.0	101.5	103.3	104.2	106.0	103.0	180.5
519	533.7	14.48	82	-7.9	3.19	0.22	95.7	98.5	99.4	103.3	105.8	110.5	110.4	185.0
520	533.7	14.50	70	-7.9	3.22	0.22	99.8	102.6	102.5	105.1	105.3	107.7	105.1	182.0
1511	533.7	14.50	70	-10.2	1.83	-0.10	96.7	99.0	99.2	101.6	98.6	101.3	99.3	178.1
1514	533.7	14.50	70	-10.2	1.81	-0.11	99.7	101.8	100.9	101.8	96.0	97.7	99.3	178.1

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TEST POINT	V <sub>ac</sub>	V <sub>J</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V <sub>J</sub>	T <sub>T</sub>	T <sub>J</sub>	P <sub>r</sub>	W	F	V <sub>mix</sub> J	T <sub>mix</sub> T	T <sub>mix</sub> J	P <sub>mix</sub> r	W	F	V/V <sub>J</sub>
	m/s	m/s	K	K	kg/s	N	m/s	K	K		kg/s	N	m/s	K	K		kg/s	N		
501	0.	692.8	944.4	727.4	2.7338	266.6	11542	509.9	491.5	362.1	2.9141	80.0	2548	650.6	460.9	643.9	2.7171	347.	14090	0.74
502	122.	692.5	950.0	733.5	2.7117	263.2	11388	499.9	473.3	348.9	2.9075	81.1	2536	647.0	459.6	643.7	2.6920	344.	13924	0.72
505	0.	721.5	959.4	723.6	2.9585	285.7	12883	499.7	471.2	346.9	2.9198	81.7	2551	672.1	466.8	641.2	2.8920	367.	15435	0.69
506	122.	719.0	952.8	717.9	2.9603	287.0	12897	499.1	471.6	347.6	2.9088	81.4	2538	670.4	464.3	637.5	2.8932	368.	15435	0.69
507	0.	720.2	960.0	719.4	3.0285	292.5	13316	498.9	470.0	346.1	2.9186	81.8	2551	678.1	467.9	639.4	2.9483	374.	15867	0.69
508	122.	725.4	953.3	714.0	3.0269	293.6	13310	499.0	471.7	347.8	2.9061	81.3	2536	676.3	465.6	636.1	2.9471	375.	15847	0.69
509	0.	731.8	957.2	713.8	3.0784	297.7	13615	499.9	471.7	347.3	2.9199	81.7	2551	681.8	467.7	636.6	2.9903	379.	16167	0.68
510	122.	731.8	957.8	714.3	3.0786	298.1	13634	500.2	474.3	349.7	2.9038	81.1	2535	682.4	468.7	638.0	2.9889	379.	16170	0.68
511	0.	737.3	958.3	711.4	3.1350	302.6	13943	501.2	473.7	348.7	2.9227	81.5	2552	687.2	469.5	636.2	3.0374	384.	16496	0.68
512	122.	735.2	954.4	708.7	3.1297	303.1	13928	501.7	476.2	350.9	2.9119	81.1	2542	686.0	468.4	634.9	3.0331	384.	16470	0.68
513	0.	737.9	950.0	702.1	3.1799	308.8	14239	502.6	478.5	352.8	2.9065	80.7	2536	689.1	467.7	631.4	3.0751	389.	16775	0.68
514	122.	741.0	957.8	707.7	3.1823	308.1	14269	501.2	475.9	350.9	2.9056	81.0	2537	691.0	470.3	635.3	3.0746	389.	16807	0.68
515	0.	742.2	950.6	699.2	3.2314	313.6	14548	499.3	471.8	347.7	2.9097	81.4	2539	692.2	467.4	628.7	3.1153	395.	17087	0.67
516	122.	744.9	957.8	704.7	3.2302	312.8	14564	501.7	476.9	351.7	2.9060	81.0	2538	695.0	471.1	634.2	3.1143	394.	17102	0.67
517	0.	748.6	948.3	692.1	3.3218	322.8	15105	499.6	472.5	348.2	2.9095	81.3	2539	698.6	467.8	625.1	3.1901	404.	17644	0.67
518	122.	752.9	958.9	700.5	3.3202	321.2	15114	503.9	480.8	354.4	2.9073	80.6	2539	702.9	473.5	633.2	3.1894	402.	17654	0.67
519	0.	767.5	957.2	687.8	3.5223	340.4	16331	504.8	482.1	355.3	2.9108	80.5	2539	717.3	475.4	626.7	3.3571	421.	18871	0.66
520	122.	772.1	967.8	695.5	3.5260	339.5	16382	506.5	485.8	358.1	2.9079	80.2	2540	721.3	480.4	633.6	3.3591	420.	18923	0.66
1511	0																			

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB	
501	298.2	99994.	79	-6.6	2.75	-0.82	93.4	97.6	99.1	101.1	102.6	103.4	104.3	180.7	
502	296.5	99822.	70	-6.5	2.73	-0.86	97.3	99.9	98.9	101.2	101.2	102.3	97.5	176.9	
505	295.4	99846.	91	-6.9	2.92	-0.45	94.0	97.2	98.2	101.8	103.2	107.2	106.4	181.6	
506	296.5	99860.	70	-7.0	2.89	-0.45	97.9	101.0	101.2	102.1	102.6	103.7	99.9	178.5	
507	295.4	99896.	91	-7.1	2.95	-0.35	94.2	97.4	99.0	102.1	103.6	107.7	107.2	182.4	
508	296.5	99923.	70	-7.1	2.93	-0.36	98.3	100.9	100.3	102.3	102.6	104.0	100.2	178.7	
509	295.4	99856.	91	-7.2	2.96	-0.28	94.7	97.5	98.9	102.0	103.6	107.6	106.9	182.3	
510	296.5	99994.	70	-7.2	2.97	-0.29	98.3	100.8	100.8	102.7	103.2	104.4	100.7	179.1	
511	295.4	99738.	91	-7.3	3.01	-0.21	95.1	97.7	99.2	102.2	103.9	108.3	107.3	182.4	
512	296.5	99856.	70	-7.3	3.00	-0.22	98.7	101.2	101.2	102.6	103.5	104.8	101.3	179.5	
513	295.4	99876.	91	-7.4	3.02	-0.16	95.0	97.3	98.2	101.9	104.1	108.2	108.1	182.8	
514	296.5	99994.	70	-7.4	3.03	-0.16	99.1	101.7	100.6	103.0	103.3	105.3	101.6	179.6	
515	295.4	99839.	91	-7.5	3.04	-0.09	95.3	97.7	98.3	102.2	104.5	108.5	108.2	182.9	
516	296.5	100001.	70	-7.5	3.05	-0.10	98.8	101.3	100.9	102.8	103.9	105.4	101.9	179.7	
517	295.4	99853.	91	-7.7	3.08	0.01	96.0	98.4	98.9	102.7	104.7	109.0	108.8	183.5	
518	296.5	99991.	70	-7.6	3.10	0.01	99.2	102.0	101.5	103.3	104.2	106.0	103.0	180.5	
519	296.5	99812.	82	-7.9	3.19	0.22	95.7	98.5	99.4	103.3	105.8	110.5	110.4	105.0	
520	296.5	99991.	70	-7.9	3.22	0.22	99.8	102.6	102.5	105.1	105.3	107.7	105.1	182.0	
1511	296.5	99947.	70	-10.2	1.83	-0.10	96.7	99.0	99.2	101.6	98.6	101.3	99.3	178.1	
1514	296.5	99977.	70	-10.2	1.81	-0.11	99.7	101.8	100.9	101.8	96.9	97.7	92.6	176.9	

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Table 3-8. Test Matrix of DFSC-6

Table 3-8. Aerodynamic and Acoustic Test Data - Model DFSC-6.

NOZZLE - MODEL 06 AREA [MODEL SIZE - INNER = 4.05 , OUTER = 20.23 ; FULL SIZE - TOTAL = 1400.00] SQ.IN.

TEST POINT	V	P	T	V	W	P	T	V	W	P	T	V	W	F	V/V
	ac	r	T	j	LB/SEC	r	T	j	LB/SEC	r	T	j	LB		J J
	FT/SEC		DEG R	FT/SEC			DEG R	FT/SEC			DEG R	FT/SEC			
607	0	2.04	1675	1936	439.2	3.13	850	1685	191.9	2.19	1424	1860	36488	0.67	
609	0	2.55	1720	2217	541.7	3.13	839	1676	193.1	2.60	1488	2075	47390	0.76	
610	400	2.53	1684	2184	545.3	3.12	860	1694	191.3	2.58	1470	2056	47087	0.78	
611	0	2.79	1680	2280	599.3	3.14	841	1678	192.8	2.80	1475	2133	52529	0.74	
612	400	2.80	1681	2281	603.1	3.13	854	1690	192.3	2.80	1480	2138	52861	0.74	
613	0	3.06	1677	2362	657.2	3.14	850	1687	191.9	3.01	1490	2209	58317	0.71	
614	400	3.06	1713	2387	652.4	3.14	856	1693	192.2	3.01	1517	2229	58517	0.71	
619	0	3.33	1672	2432	716.9	3.14	866	1703	190.6	3.24	1502	2279	64294	0.70	
620	400	3.32	1692	2446	714.7	3.14	867	1703	191.0	3.23	1517	2289	64440	0.70	
625	0	3.65	1701	2531	778.0	3.13	867	1703	189.7	3.50	1537	2368	71240	0.67	
626	400	3.61	1683	2508	777.4	3.13	848	1684	192.9	3.46	1517	2344	70694	0.67	
627	0	3.83	1678	2551	822.2	3.14	883	1719	188.3	3.65	1529	2395	75235	0.67	
629	0	4.03	1681	2593	864.1	3.14	888	1724	187.6	3.82	1540	2438	79693	0.67	
630	400	4.02	1681	2591	867.3	3.13	870	1705	190.3	3.81	1535	2431	79930	0.66	
1619	0	3.39	862	1746	1031.9	3.13	833	1668	193.6	3.35	857	1733	66038	0.96	
1620	400	3.39	856	1740	1040.9	3.13	853	1687	192.3	3.35	855	1732	66389	0.97	
7609	0	2.53	1691	2190	542.8	1.81	1163	1478	94.1	2.41	1612	2084	41271	0.67	
7610	400	2.53	1675	2178	546.4	1.81	1175	1487	94.1	2.41	1601	2076	41339	0.68	
7611	0	2.80	1698	2295	597.2	1.81	1178	1490	93.6	2.63	1627	2185	46936	0.65	
7612	400	2.80	1683	2283	602.6	1.81	1226	1520	92.2	2.63	1622	2181	47117	0.67	

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB							OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES							
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB
607	503.8	14.40	71	-4.9	2.28	-2.75	92.1	93.8	94.3	96.6	101.4	100.2	104.2	177.3
609	503.8	14.39	72	-6.1	2.75	-1.09	95.8	97.9	99.1	101.2	105.0	105.1	109.0	181.1
610	522.0	14.47	66	-6.2	2.64	-1.14	98.4	96.4	98.7	99.5	102.6	101.9	100.5	176.5
611	504.6	14.37	71	-6.6	2.87	-0.64	94.6	96.5	98.0	101.0	106.4	106.7	110.3	182.1
612	519.9	14.46	67	-6.8	2.82	-0.64	97.1	95.6	98.9	100.2	103.8	103.5	103.6	177.9
613	504.6	14.38	70	-7.1	3.03	-0.25	98.9	100.3	101.8	104.0	107.9	108.2	111.2	183.3
614	519.9	14.45	69	-7.2	3.00	-0.26	101.7	100.7	103.1	103.6	106.1	105.4	105.7	180.7
619	506.0	14.39	69	-7.6	3.15	0.07	99.9	101.2	102.9	105.0	108.9	109.8	112.9	184.4
620	518.0	14.46	70	-7.7	3.12	0.06	105.5	104.3	105.6	106.0	107.9	107.6	107.5	182.4
625	506.0	14.38	69	-8.0	3.32	0.38	101.1	102.4	104.7	107.1	110.4	111.7	113.8	185.8
626	518.0	14.45	71	-8.2	3.22	0.34	104.9	103.8	106.4	106.5	109.5	109.3	109.0	183.6
627	506.0	14.38	69	-8.4	3.37	0.53	101.0	102.3	104.7	107.2	110.9	112.3	114.3	186.2
629	506.0	14.37	70	-8.6	3.45	0.68	100.6	101.8	104.2	107.1	111.4	114.0	114.9	186.9
630	515.1	14.46	71	-8.8	3.40	0.67	103.8	102.9	106.7	107.3	110.4	110.7	110.9	184.5
1619	501.8	14.40	76	-10.3	1.98	0.13	99.8	100.7	102.4	103.8	103.8	102.5	105.1	180.9
1620	513.3	14.48	74	-10.5	1.93	0.13	106.2	104.4	105.5	104.8	104.2	101.8	99.6	180.1
7609	506.0	14.41	70	-5.0	2.77	-1.83	91.2	94.0	95.3	98.9	104.3	104.1	106.9	179.6
7610	523.2	14.45	64	-5.2	2.68	-1.84	93.7	95.0	96.8	97.6	100.9	100.4	98.3	174.5
7611	506.0	14.37	70	-5.6	2.97	-1.12	92.7	94.7	96.5	99.7	105.5	106.2	110.2	181.4
7612	521.8	14.46	63	-5.8	2.90	-1.14	96.1	94.1	98.7	99.8	103.5	103.1	102.5	177.0

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Table 3-8. Continued

## NOZZLE - MODEL 06 CONTINUED

TEST POINT	V <sub>ac</sub> FT/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB/SEC	P <sub>r</sub>	T <sub>T</sub> DEG R	V <sub>j</sub> FT/SEC	W LB/SEC	F LB	i <sub>o</sub> V/V <sub>j</sub>
7613	0	3.05	1702	2377	649.9	1.82	1208	1512	92.8	2.84	1640	2269	52375	0.64	
7614	400	3.05	1681	2362	658.0	1.81	1243	1529	91.4	2.85	1627	2260	52644	0.65	
7619	0	3.32	1695	2447	708.7	1.80	1279	1545	89.0	3.08	1648	2346	58171	0.63	
7620	400	3.32	1710	2459	710.1	1.81	1263	1543	90.7	3.08	1659	2355	58622	0.63	
7625	0	3.62	1704	2525	769.1	1.81	1334	1587	87.5	3.34	1666	2429	64685	0.63	
7626	400	3.61	1748	2558	763.9	1.81	1379	1614	86.7	3.33	1710	2461	65084	0.63	
7627	0	3.82	1710	2573	810.4	1.80	1253	1527	89.7	3.50	1664	2468	69074	0.59	
7629	0	4.04	1721	2625	854.8	1.82	1258	1542	90.6	3.69	1676	2521	74079	0.59	
7630	400	4.02	1697	2603	863.1	1.81	1372	1609	86.9	3.68	1667	2512	74177	0.62	

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES								
	DEG R	PSIA	%	dB			50	60	70	90	120	130	140	dB	
7613	506.5	14.39	70	-6.2	3.13	-0.66	94.4	96.1	98.1	101.4	107.4	108.2	111.1	182.7	
7614	521.8	14.47	63	-6.4	3.05	-0.66	97.0	98.3	99.5	101.2	105.0	104.6	104.8	178.7	
7619	506.0	14.37	70	-6.7	3.26	-0.26	95.9	97.6	99.6	102.7	108.8	110.5	112.7	184.0	
7620	521.8	14.46	63	-6.8	3.23	-0.25	98.7	98.6	101.6	102.7	106.8	107.1	107.4	181.0	
7625	506.0	14.36	69	-7.2	3.43	0.09	96.8	98.7	100.8	104.2	110.8	113.8	113.8	185.7	
7626	524.8	14.47	62	-7.3	3.41	0.09	99.5	101.3	102.6	103.8	108.4	110.0	110.0	183.2	
7627	506.0	14.37	69	-7.6	3.50	0.28	97.1	99.0	101.6	105.0	111.0	113.5	114.1	186.0	
7629	505.1	14.38	71	-7.9	3.60	0.48	97.3	99.6	102.6	105.7	111.5	114.1	114.3	186.5	
7630	522.3	14.48	62	-8.1	3.51	0.46	101.5	103.5	104.7	105.9	109.7	110.4	110.4	184.0	

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Table 3-8. Continued

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NOZZLE - MODEL 06

AREA [MODEL SIZE - INNER = 0.0026 , OUTER = 0.0130 ; FULL SIZE - TOTAL = 0.9031] sq.in.

TEST POINT	V ac	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W	F	V j	T T	T j	P r	W
	m/s	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N	m/s	K	K	kg/s	N
607	0.	590.1	930.6	775.0	2.05413	199.2	7349	513.8	472.3	340.8	3.1311	87.0	2795	567.0	434.1	642.2	2.1908	286.	10144	0.87																
609	0.	675.7	955.6	749.9	2.5544	245.7	10377	510.8	466.4	336.6	3.1343	87.6	2797	632.5	453.7	641.3	2.5973	333.	13175	0.76																
610	122.	665.7	935.6	735.6	2.5300	247.3	10290	516.5	477.8	345.1	3.1247	86.8	2800	626.9	448.1	634.0	2.5829	334.	13090	0.78																
611	0.	694.9	933.3	713.7	2.7949	271.8	11806	511.7	467.7	337.3	3.1369	87.5	2796	650.3	449.8	622.4	2.7957	359.	14603	0.74																
612	122.	695.2	933.9	714.0	2.7967	273.6	11897	515.3	474.8	342.6	3.1333	87.2	2808	651.8	451.3	624.6	2.7988	361.	14696	0.74																
613	0.	719.9	931.7	694.9	3.0605	298.1	13415	514.3	472.6	340.9	3.1366	87.0	2797	673.5	454.2	615.8	3.0129	385.	16212	0.71																
614	122.	727.6	951.7	710.7	3.0570	295.9	13456	516.1	475.8	343.2	3.1369	87.2	2812	679.4	462.6	628.2	3.0074	383.	16268	0.71																
619	0.	741.3	928.9	676.4	3.3306	325.2	15067	519.3	481.2	346.9	3.1421	86.5	2806	694.8	458.0	608.6	3.2380	412.	17874	0.70																
620	122.	745.5	940.0	685.2	3.3250	324.2	15103	519.3	481.9	347.7	3.1352	86.6	2811	697.8	462.6	615.5	3.2303	411.	17915	0.70																
625	0.	771.4	945.0	671.5	3.6514	352.9	17013	519.2	481.9	347.8	3.1327	86.0	2792	721.9	468.7	610.2	3.4968	439.	19805	0.67																
626	122.	764.4	935.0	666.1	3.6092	352.6	16845	513.3	471.1	339.9	3.1330	87.5	2807	714.5	462.5	603.3	3.4598	440.	19653	0.67																
627	0.	777.5	932.2	652.5	3.8307	372.9	18119	524.1	490.7	353.9	3.1364	85.4	2796	730.2	466.2	599.1	3.6521	458.	20916	0.67																
629	0.	790.3	933.9	644.6	4.0322	391.9	19359	525.7	493.8	356.2	3.1367	85.1	2796	743.1	469.4	595.7	3.8202	477.	22155	0.67																
630	122.	789.7	933.9	645.1	4.0220	393.4	19416	519.9	483.7	349.2	3.1296	86.3	2804	741.2	468.0	594.4	3.8065	480.	22221	0.66																
1619	0.	532.2	478.9	337.8	3.3902	468.1	15569	508.4	462.8	334.2	3.1267	87.8	2790	528.5	261.3	337.3	3.3466	556.	18359	0.96																
1620	122.	530.4	475.6	335.4	3.3907	472.1	15652	514.5	473.9	342.2	3.1267	87.2	2804	527.9	260.8	336.5	3.3472	559.	18457	0.97																
7609	0.	667.5	939.4	738.2	2.5342	246.2	10271	450.5	446.6	349.6	1.8085	42.7	1202	635.4	491.6	712.5	2.4071	289.	11473	0.67																
7610	122.	663.9	930.6	731.4	2.5310	247.8	10284	453.2	452.9	355.0	1.8110	42.7	1208	633.0	488.2	707.5	2.4057	291.	11492	0.68																
7611	0.	699.5	943.3	721.7	2.8010	270.9	11843	454.3	454.6	356.2	1.8137	42.5	1205	666.3	496.1	701.9	2.6329	313.	13048	0.65																
7612	122.	695.9	935.0	715.3	2.7965	273.3	11888	463.4	461.1	359.6	1.8126	41.8	1211	665.0	494.6	699.7	2.6314	315.	13099	0.67																

TEST POINT	T	P	RH	NF	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB								OAPWL	
	amb	amb					ANGLE RELATIVE TO INLET, DEGREES									
	DEG.K	Pascal	%	dB			50	60	70	90	120	130	140	dB		
607	279.9	99297.	71	-4.9	2.28	-2.75	92.1	93.8	94.3	96.6	101.4	100.2	104.2	177.3		
609	279.9	99220.	72	-6.1	2.75	-1.09	95.8	97.9	99.1	101.2	105.0	105.1	109.0	181.1		
610	290.0	99755.	66	-6.2	2.64	-1.14	98.4	96.4	98.7	99.5	102.6	101.9	100.5	176.5		
611	280.4	99098.	71	-6.6	2.87	-0.64	94.6	96.5	98.0	101.0	106.4	106.7	110.3	182.1		
612	288.9	99684.	67	-6.8	2.82	-0.64	97.1	95.6	98.9	100.2	103.8	103.5	103.6	177.9		
613	280.4	99156.	70	-7.1	3.03	-0.25	98.9	100.3	101.8	104.0	107.9	108.2	111.2	183.3		
614	288.9	99640.	69	-7.2	3.00	-0.26	101.7	100.7	103.1	103.6	106.1	105.4	105.7	180.7		
619	281.1	99229.	69	-7.6	3.15	0.07	99.9	101.2	102.9	105.0	108.9	109.8	112.9	184.4		
620	305.0	99701.	70	-7.7	3.12	0.06	105.5	104.3	105.6	106.0	107.9	107.6	107.5	182.4		
625	281.1	99125.	69	-8.0	3.32	0.38	101.1	102.4	104.7	107.1	110.4	111.7	113.8	185.8		
626	305.0	99660.	71	-8.2	3.22	0.34	104.9	103.8	106.4	106.5	109.5	109.3	109.0	183.6		
627	281.1	99122.	69	-8.4	3.37	0.53	101.0	102.3	104.7	107.2	110.9	112.3	114.3	186.2		
629	281.1	99088.	70	-8.6	3.45	0.68	100.6	101.8	104.2	107.1	111.4	114.0	114.9	186.9		
630	286.2	99708.	71	-8.8	3.40	0.67	103.8	102.9	106.7	107.3	110.4	110.7	110.9	184.5		
1619	278.8	99300.	76	-10.3	1.98	0.13	99.8	100.7	102.4	103.8	103.8	102.5	105.1	180.9		
1620	285.2	99812.	74	-10.5	1.93	0.13	106.2	104.4	105.5	104.8	104.2	101.8	99.6	180.1		
7609	281.1	99331.	70	-5.0	2.77	-1.83	91.2	94.0	95.3	98.9	104.3	104.1	106.9	179.6		
7610	290.7	99624.	64	-5.2	2.68	-1.84	93.7	95.0	96.8	97.6	100.9	100.4	98.3	174.5		
7611	281.1	99109.	70	-5.6	2.97	-1.12	92.7	94.7	96.5	99.7	105.5	106.2	110.2	181.4		
7612	289.9	99701.	63	-5.8	2.90	-1.14	96.1	94.1	98.7	99.8	103.5	103.1	102.5	177.0		

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Table 3-8. Concluded

\*\*\*\*\* S.I. UNITS \*\*\*\*\*

## NOZZLE - MODEL 06 CONTINUED

TEST POINT	V ac	<sup>o</sup> V J	<sup>o</sup> T T	<sup>o</sup> T J	<sup>o</sup> P r	<sup>o</sup> W	<sup>o</sup> F	<sup>i</sup> V J	<sup>i</sup> T T	<sup>i</sup> T J	<sup>i</sup> P r	<sup>i</sup> W	<sup>i</sup> F	<sup>i</sup> V J	mix T T	mix T J	mix P r	W	F	<sup>i</sup> V J	<sup>o</sup> V J
	m/s	m/s	K	K		kg/s	N	m/s	K	K		kg/s	N	m/s	K	K		kg/s	N		
7613	0.	724.5	945.6	786.7	3.0483	294.8	13348	461.0	671.1	570.3	1.8184	42.1	1212	691.6	500.0	692.8	2.8444	337.	14560	0.64	
7614	122.	719.9	933.9	697.1	3.0498	298.5	13428	466.1	690.8	588.4	1.8093	41.5	1207	688.9	496.0	686.7	2.8465	340.	14635	0.65	
7619	0.	745.8	941.7	686.9	3.3204	321.5	14984	470.9	710.6	606.6	1.8002	40.4	1187	715.2	502.4	681.2	3.0772	362.	16172	0.63	
7620	122.	749.5	950.0	693.4	3.3227	322.1	15087	470.5	701.9	597.9	1.8123	41.1	1209	717.9	505.8	686.0	3.0798	363.	16297	0.63	
7625	0.	769.6	946.7	674.4	3.6171	348.9	16782	483.7	741.5	632.7	1.8123	39.7	1200	740.5	507.9	673.7	3.3356	389.	17983	0.63	
7626	122.	779.7	971.1	693.2	3.6142	346.5	16885	491.9	766.3	654.4	1.8126	39.3	1209	750.4	521.3	692.8	3.3336	386.	18094	0.63	
7627	0.	784.3	950.0	666.9	3.8157	367.6	18019	465.5	696.4	594.4	1.7970	40.7	1184	752.5	507.4	663.9	3.5016	408.	19203	0.59	
7629	0.	800.1	956.1	660.7	4.0363	387.7	19387	470.2	699.2	595.2	1.8157	41.1	1207	768.5	511.0	658.8	3.6948	429.	20594	0.59	
7630	122.	793.4	942.8	651.8	4.0180	391.5	19413	490.6	762.6	651.3	1.8118	39.4	1209	765.7	508.3	655.6	3.6839	431.	20622	0.62	

TEST POINT	T amb DEG.K	P amb Pascal	RH %	NF dB	LVM	LBM	PNL (FULL SIZE, 2400 FT SIDE LINE), dB ANGLE RELATIVE TO INLET, DEGREES							OAPWL dB	
							50	60	70	90	120	130	140		
7613	281.4	99227.	70	-6.2	3.13	-0.66	94.4	96.1	98.1	101.4	107.4	108.2	111.1	182.7	
7614	289.9	99742.	63	-6.4	3.05	-0.66	97.0	98.3	99.5	101.2	105.0	104.6	104.8	178.7	
7619	281.1	99105.	70	-6.7	3.26	-0.26	95.9	97.6	99.6	102.7	108.8	110.5	112.7	184.0	
7620	289.9	99704.	63	-6.8	3.23	-0.25	98.7	98.6	101.6	102.7	106.8	107.1	107.4	181.0	
7625	281.1	99011.	69	-7.2	3.43	0.09	96.8	98.7	100.8	104.2	110.8	113.8	113.8	185.7	
7626	291.6	99742.	62	-7.3	3.41	0.09	99.5	101.3	102.6	103.8	108.4	110.0	110.0	183.2	
7627	281.1	99095.	69	-7.6	3.50	0.28	97.1	99.0	101.6	105.0	111.0	113.5	114.1	186.0	
7629	300.0	99122.	71	-7.9	3.60	0.48	97.3	99.6	102.6	105.7	111.5	114.1	114.3	186.5	
7630	290.2	99822.	62	-8.1	3.51	0.46	101.5	103.5	104.7	105.9	109.7	110.4	110.4	184.0	

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#### 4.0 ACOUSTIC TEST RESULTS

The far-field acoustic data measured with the test nozzles described in Section 2.0 and for each of the test conditions defined in Section 3.0 are presented in the following subsections. A summary of the data acquisition and reduction procedures along with a brief description of the General Electric Anechoic Test Facility are to be found in the data report of an earlier NASA Contract NAS 3-22514 on shock-cell noise reduction for single stream nozzles (Reference 4-1).

The far-field acoustic data for a given test point are described in three successive tabulations. Sample sheets of these tabulations are provided in Tables 4-1 through 4-3. The scope of the tabulations is summarized below:

<u>SAMPLE SHEET</u>	<u>SIZE</u>	<u>EXTRAPOLATED DISTANCE</u>	<u>TYPE OF DATA</u>
Table 4-1	Actual Model	12.2 m (40 ft) Arc	Untransformed, but corrected for background noise and standard day.
Table 4-2	Actual Model	12.2 m (40 ft) Arc	Flight-transformed model data. Refraction and turbulence corrections applied
Table 4-3	0.9032 m <sup>2</sup> (1400 in <sup>2</sup> )	731.5 m (2400 ft) Sideline	Flight-transformed data that is scaled and extrapolated to a typical AST case.

The far-field acoustic data provided in these tables mainly consist of 1/3-octave-band sound pressure levels (SPL) (Ref. 20  $\mu\text{N/m}^2$ ) and overall sound pressure levels (OASPL) at angles to the inlet of 40° through 160° (in 10° increments). The 1/3-octave-band sound power level (Ref. 10<sup>-3</sup> watts) spectra are presented in each of these tables. In addition, for the case of the scaled and extrapolated data set, the perceived noise level (PNL) and the tone-corrected perceived noise level (PNLT) have been computed at each of the

microphone angles and are presented. The Shields and Bass air attenuation model (Reference 4-2) has been employed to correct the measured data to a standard day ( $15^{\circ}\text{C}$  or  $59^{\circ}\text{F}$  and 75% relative humidity).

The acoustic results of the test nozzles are presented in Subsections 4.1 through 4.6.



09

11/10/81 14.54B

ANGLES MEASURED FROM INLET, DEGREES

Inner Stream Model  
Area

VEHICL	=	AD1004	TEST DATE	=	08-12-81	LOCAT	=	C41 ANECN CH	CONFIG	=	1	MODEL	=	1	FLTVL	=	0. PPS
IAPLHA	=	3059	TEGA	=	NO	PUL AREA	=	FULL SPICRE	TARG F	=	80.00	PARG HO	=	23.70	RELAMP	=	50.9 PCT
WIND DIR	=	DEQ	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		MSFR	=	
PHINI	=	LBS	XNL	=		RPM	=		VR	=	1340.3	FPS	=	25.3	SG IN	=	
PHRAPH	=	LBS	XNLR	=		RPM	=		V18	=		FPS	=	0.	SG TH	=	
PLNCT	=	31E-ZER-0101	TAFF	=	NO101C	TEST PT NO	=	Q101	PG	=	800	CORE FAN SPEED	=		BTW	=	

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Table 4-2. Description of Acoustic Data Sheet - Page 2 Of Test Point Data Set.

BATPROG - PLTRAN

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
40.0 FT. ARC

11/10/81 14.040

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IDENTIFICATION - 81F-ZER-0101 X0101L

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.
FREQ													
50													
63													
80													
100													
125													
160													
200													
250													
315													
400													
500													
630													
800													
1000													
1250													
1600													
2000													
2500													
3150													
4000													
5000													
6300													
8000													
10000													
12500													
16000													
20000													
25000													
31500													
40000													
50000													
63000													
80000													
GASPL													
PNL													
PNLT													
DOA													

Refers to corresponding aerodynamic data reading

Air attenuation model; SB59 refers to Shield & Bass @ ambient temperature = 59°F

Dry bulb temperature in test facility

Barometric reading in test facility, in. Hg

Distance, ft.

Arc or Sideline

Relative humidity %

TREATED EJECTOR WITH NOISE SUPPRESSOR/CONFIG-5/MAS3-23275

VEHICLE = ADH004 TEST DATE = 08-12-81 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = 1 FLTYPE = 2 FPS

TAPE = SB59 IECA = NO PNL AREA = FULL SPHERE TAMP F = 80.00 TAMP H = 28.70 REL HUM = 90.1 PCT

WIND DIR = 060 WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = N/A

FRONT = LBS XIN = RPM XINR = RPM VS = 1340.3 FPS AFS = 28.3 80 IN

FRAMP = LBS XINR = RPM XINR = RPM VIS = FPS AE16 = 0. 80 IN

RUNPT = 81F-ZER-0101 TAPE = NO101L TEST PT NO = 0101 NO = 000 CORR PAN SPEED = RPM

Test Point Number

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Table 4-3. Description of Acoustic Data Sheet - Page 3 of Test Point Data.

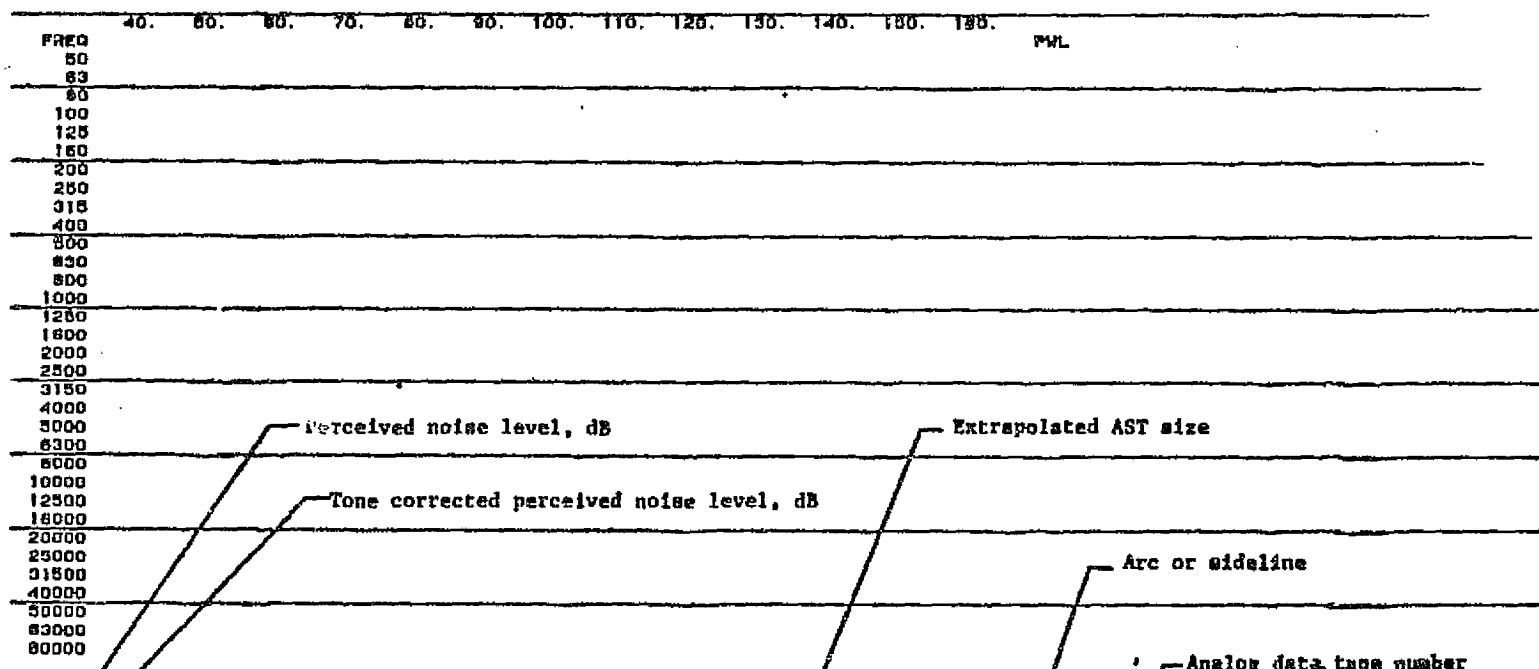
BATPROG - FLTRAM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
88.0 DEG. F., 70 PERCENT R.H. STD. DAY, 2400.0 FT SL

03/30/62 15.877

IDENTIFICATION - 82F-400-0308 X08081

ANGLES MEASURED FROM INLET, DEGREES



Model area

Distance, ft.

Model area = 220.3 SQ CM (34.8 SQ IN)

Scaled area = 9032.2 SQ CM (1400.0 SQ IN)

Diameter ratio = 8.340

Freejet velocity

Freejet velocity = 400. FPS

TREATED EJECTOR WITH MECH. SUPPRESSOR/CONFIG-1/HA53-23275

VEHICLE	ADH523	TEST DATE	02-05-62	LOCAT	C41 ANECH CH	CONFIG	8	MODEL	SL	FLVEL	400. FPS
IAPLHA	8859	TEGA	NO	PWL AREA	FULL SPHERE	TAPES	30.50	PAPB HZ	28.79	RELHUM	78.1 PCT
WIND DIR	DEG	WIND VEL	MPH	EXT DIST	2400.0 FT	EXT CONFIG	21	MIKE HT		NOISE	
FNINT	LBS XNL		RPM	XNH		RPM	V8	2408.1 FPS	AE8	25.3 SQ IN	
FNRAH	LBS XNLR		RPM	XNHR		RPM	V18	1:28.4 FPS	AE18	9.9 SQ IN	
NUMPY	82F-400-0308	TAPE	X08081	TEST PT NO	0808	AC	AE028	CORR FAN SPEED			

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4.1 Acoustic Data of DFSC-1

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0101 X0101C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	77.3	75.6	67.8	71.9	72.7	68.3	70.7	79.4	73.1	73.7	74.3	73.2	75.4	116.3
63	85.9	84.5	79.5	81.3	84.1	75.7	78.4	89.5	80.2	80.1	79.9	74.9	78.5	125.2
80	67.4	69.2	68.0	68.8	67.9	67.0	70.1	72.0	67.0	68.7	70.4	72.9	74.3	111.7
100	65.2	69.3	66.3	68.6	69.7	68.8	69.7	70.1	69.0	72.1	75.2	76.4	78.3	113.4
125	64.7	66.7	68.7	70.2	70.1	69.5	71.8	70.0	69.7	73.6	77.4	80.3	82.3	115.7
160	77.7	72.2	70.2	69.1	72.9	70.2	75.9	73.5	71.0	74.7	78.4	81.1	84.3	117.8
200	80.6	76.1	72.1	71.7	74.5	73.1	78.3	77.4	74.1	77.7	81.3	84.5	86.9	120.8
250	69.8	72.1	70.3	70.9	72.2	73.3	76.5	76.4	77.3	81.6	85.8	88.5	90.4	123.0
315	78.9	76.9	75.7	76.9	77.3	75.4	79.3	82.5	79.9	83.8	87.6	91.1	93.5	126.0
400	70.5	73.3	73.5	74.5	75.7	76.0	89.2	79.3	83.0	86.9	90.7	94.4	95.8	129.0
500	71.0	73.5	74.6	76.3	76.9	77.5	80.4	80.6	85.6	89.8	94.0	97.7	98.8	131.3
630	71.7	75.7	76.7	78.1	78.6	79.2	80.9	82.0	87.7	92.2	96.7	100.1	101.3	133.7
800	76.2	77.5	78.7	80.2	80.4	81.0	83.1	84.8	90.2	95.2	100.2	101.6	101.5	135.6
1000	85.9	87.7	87.7	87.6	85.9	83.7	84.4	85.8	91.5	96.3	101.2	102.9	103.5	137.2
1250	79.5	84.0	85.6	88.5	89.4	90.3	91.2	89.9	92.1	97.4	102.8	103.9	105.0	138.6
1600	81.8	83.7	84.1	84.8	85.5	86.3	89.2	90.0	92.3	97.6	102.8	104.5	105.5	138.8
2000	86.5	87.9	88.8	87.7	86.5	86.4	88.6	90.0	92.8	97.6	102.4	104.4	105.2	138.8
2500	83.2	85.2	87.3	88.4	87.9	87.6	88.5	90.8	93.7	97.1	100.5	103.6	104.1	137.9
3150	84.4	86.2	86.9	87.0	86.3	87.4	89.5	90.2	93.8	96.7	99.6	101.5	102.5	136.8
4000	83.5	84.4	86.3	85.9	86.2	86.4	88.3	90.3	92.5	94.9	97.4	100.0	100.5	135.2
5000	86.3	86.3	86.6	85.8	86.1	86.5	88.4	90.0	91.2	94.2	97.2	98.7	98.5	134.6
6300	88.9	89.0	89.3	87.1	87.0	86.2	88.0	89.7	90.7	93.0	95.3	96.9	97.9	134.1
8000	90.5	91.6	90.7	89.1	87.3	86.9	87.3	89.2	88.9	91.3	93.7	95.0	96.9	133.9
10000	93.0	93.9	93.5	91.3	89.0	88.7	88.0	88.9	87.8	90.1	92.4	95.1	96.7	135.3
12500	92.6	92.7	94.0	93.5	90.8	89.6	87.9	88.3	85.4	87.7	80.0	93.6	95.9	135.9
16000	89.1	91.4	92.1	92.7	91.3	89.8	88.4	88.2	83.0	85.3	87.5	91.6	94.2	136.1
20000	87.7	88.5	89.7	90.7	90.1	89.6	88.4	87.0	80.8	83.4	86.0	89.8	92.0	136.2
25000	85.3	86.9	87.7	88.6	88.3	88.9	88.0	86.8	80.7	82.6	84.5	87.4	88.6	137.1
31500	79.3	81.6	83.1	85.1	83.7	83.3	82.8	82.3	77.9	78.9	79.9	82.4	81.9	135.4
40000	75.9	78.5	80.0	81.7	81.8	81.1	79.7	79.8	74.6	76.3	78.1	79.0	79.1	136.7
50000	72.9	74.8	76.2	78.1	77.5	78.0	76.2	75.2	69.6	71.9	74.2	76.2	74.9	137.3
63000	67.9	71.0	72.5	73.1	73.1	74.0	71.2	71.2	63.2	66.9	70.6	71.5	70.3	138.2
80000	60.0	66.0	66.5	66.7	66.3	68.2	64.5	64.2	55.0	60.0	64.9	66.2	62.5	138.8

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OSAPL 100.3 101.2 101.6 101.4 100.5 100.1 101.0 101.7 103.1 107.0 111.1 113.2 114.0 150.3  
PNL 110.0 110.7 111.0 110.9 110.6 110.7 112.8 113.8 116.2 119.6 123.0 125.4 126.2  
PNLT 112.7 113.0 112.8 112.0 111.9 112.4 114.3 114.5 116.2 119.6 123.0 125.4 126.2  
DBA 97.5 98.6 99.0 98.5 98.0 98.2 99.6 100.8 103.3 107.3 111.5 113.5 114.2

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH287 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1681.6 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0101 TAPE = X0101C TEST PT NO = 0101 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0101 X0101F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	77.3	75.6	67.8	71.9	72.7	68.3	70.7	79.4	73.1	73.7	74.3	73.2	75.4	116.3
63	85.9	84.5	79.5	81.3	84.1	75.7	78.4	89.5	80.2	80.1	79.9	74.9	78.5	125.2
80	67.4	69.2	68.0	68.8	67.9	67.0	70.1	72.0	67.0	68.7	70.4	72.9	74.3	111.7
100	65.2	69.3	66.3	68.6	69.7	68.8	69.7	70.1	69.0	72.1	75.2	76.4	78.3	113.4
125	64.7	66.7	68.7	70.2	70.1	69.5	71.8	70.0	69.7	73.6	77.4	80.3	82.3	115.7
160	77.7	72.2	70.2	69.1	72.9	70.2	75.9	73.5	71.0	74.7	78.4	81.1	84.3	117.8
200	80.6	76.1	72.1	71.7	74.5	73.1	78.3	77.4	74.1	77.7	81.3	84.5	86.9	120.8
250	69.8	72.1	70.3	70.9	72.2	73.3	76.5	76.4	77.3	81.6	85.8	88.5	90.4	123.0
315	78.9	76.9	75.7	76.9	77.3	75.4	79.3	82.5	79.9	83.8	87.6	91.1	93.5	126.0
400	70.5	73.3	73.5	74.5	75.7	76.0	89.2	79.3	83.0	86.9	90.7	94.4	95.8	129.0
500	71.0	73.5	74.6	76.3	76.9	77.5	80.4	80.6	85.6	89.8	94.0	97.7	98.8	131.3
630	71.7	75.7	76.7	78.1	78.6	79.2	80.9	82.0	87.7	92.2	96.7	100.1	101.3	133.7
800	76.2	77.5	78.7	80.2	80.4	81.0	83.1	84.8	90.2	95.2	100.2	101.6	101.5	135.6
1000	85.9	87.7	87.7	87.6	85.9	83.7	84.4	85.8	91.5	96.3	101.2	102.9	103.5	137.2
1250	79.5	84.0	85.6	88.5	89.4	90.3	91.2	89.9	92.1	97.4	102.8	103.9	105.0	138.6
1600	81.8	83.7	84.1	84.8	85.5	86.3	89.2	90.0	92.3	97.6	102.8	104.5	105.5	138.8
2000	86.5	87.9	88.8	87.7	86.5	86.4	88.6	90.0	92.8	97.6	102.4	104.4	105.2	138.8
2500	83.2	85.2	87.3	88.4	87.9	87.6	88.5	90.8	93.7	97.1	100.5	103.6	104.1	137.9
3150	84.4	86.2	86.9	87.0	86.3	87.4	89.5	90.2	93.8	96.7	99.6	101.5	102.5	136.8
4000	83.5	84.4	86.3	85.9	86.2	86.4	88.3	90.3	92.5	94.9	97.4	100.0	100.5	135.2
5000	86.3	86.3	86.6	85.8	86.1	86.5	88.4	90.0	91.2	94.2	97.2	98.7	98.5	134.6
6300	88.9	89.0	89.3	87.1	87.0	86.2	88.0	89.7	90.7	93.0	95.3	96.9	97.9	134.1
8000	90.5	91.6	90.7	89.1	87.3	86.9	87.3	89.2	88.9	91.3	93.7	95.0	96.9	133.9
10000	93.0	93.9	93.5	91.3	89.0	88.7	88.0	88.9	87.8	90.1	92.4	95.1	96.7	135.3
12500	92.6	92.7	94.0	93.5	90.8	89.6	87.9	88.3	85.4	87.7	90.0	93.6	95.9	135.9
16000	89.1	91.4	92.1	92.7	91.3	89.8	88.4	88.2	83.0	85.3	87.5	91.6	94.2	136.1
20000	87.7	88.5	89.7	90.7	90.1	89.6	88.4	87.0	80.8	83.4	86.0	89.8	92.0	136.2
25000	85.3	86.9	87.7	88.6	88.3	88.9	88.0	86.8	80.7	82.6	84.5	87.4	88.6	137.1
31500	79.3	81.6	83.1	85.1	83.7	83.3	82.8	82.3	77.9	78.9	79.9	82.4	81.9	135.4
40000	75.9	78.5	80.0	81.7	81.8	81.1	79.7	79.8	74.6	76.3	78.1	79.0	79.1	136.7
50000	72.9	74.8	76.2	78.1	77.5	78.0	76.2	75.2	69.6	71.9	74.2	76.2	74.9	137.3
63000	67.9	71.0	72.5	73.1	73.1	74.0	71.2	71.2	63.2	66.9	70.6	71.5	70.3	138.2
80000	60.0	66.0	66.5	66.7	66.3	68.2	64.5	64.2	55.0	60.0	64.9	66.2	62.5	138.8
GASPL	100.3	101.2	101.6	101.4	100.5	100.1	101.0	101.7	103.1	107.0	111.1	113.2	114.0	150.3
PNL	110.0	110.7	111.0	110.9	110.6	110.7	112.8	113.8	116.2	119.6	123.0	125.4	126.2	
PNLT	112.7	113.0	112.8	112.0	111.9	112.4	114.3	114.5	116.2	119.6	123.0	125.4	126.2	
DBA	182.7	187.5	188.4	188.8	188.5	189.9	186.7	186.4	178.2	182.3	186.6	187.8	185.1	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH287 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1681.6 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0101 TAPE = X0101F TEST PT NO = 0101 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0101 X01011

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.6	75.9	77.0	77.6	76.3	74.3	74.8	75.8	80.8	84.6	87.9	87.4	84.7	163.3
63	66.2	72.2	74.8	78.4	79.8	80.8	81.6	79.8	81.3	85.6	89.4	88.4	86.0	164.7
80	68.4	71.8	73.3	74.8	75.8	76.8	79.5	79.9	81.6	85.7	89.4	88.9	86.5	164.9
100	73.1	76.0	78.0	77.7	76.9	76.9	79.0	79.9	82.0	85.7	88.9	88.8	86.1	164.9
125	69.7	73.3	76.5	78.3	78.2	78.0	78.8	80.7	82.9	85.2	87.0	87.8	84.8	164.0
160	70.7	74.1	76.0	76.8	76.5	77.7	79.7	80.0	82.8	84.6	86.0	85.5	82.9	162.9
200	69.7	72.3	75.3	75.6	76.3	76.7	76.4	80.1	81.4	82.8	83.6	83.7	80.4	161.3
250	72.2	73.9	75.5	75.4	76.2	76.8	78.5	79.6	80.1	81.9	83.1	82.2	77.9	160.7
315	74.7	76.5	78.1	76.6	77.0	76.4	78.0	79.2	79.4	80.5	81.1	80.0	76.7	160.2
400	76.1	79.1	79.4	78.7	77.4	77.1	77.4	78.7	77.6	78.7	79.3	77.7	75.0	160.0
500	78.6	81.4	82.3	81.0	79.2	79.1	78.2	78.6	76.7	77.6	77.9	77.7	74.3	161.4
630	78.3	80.5	83.2	83.6	81.5	80.4	78.5	78.4	74.6	75.5	75.7	76.2	73.1	162.0
800	75.4	80.0	82.1	83.6	82.8	81.5	79.9	79.2	73.0	73.8	73.9	74.6	71.4	162.2
1000	75.0	78.2	80.8	82.9	82.8	82.5	81.2	79.2	72.0	73.0	73.3	73.5	69.4	162.3
1250	73.9	78.0	80.4	82.4	82.7	83.5	82.4	80.6	73.4	73.7	73.1	72.1	66.4	163.2
1600	69.3	74.4	77.8	80.9	80.1	79.9	79.2	78.1	72.5	71.7	69.9	68.1	59.7	161.5
2000	67.6	73.4	76.9	79.8	80.7	80.3	78.6	78.0	71.4	71.1	69.8	65.6	56.5	162.8
2500	65.5	71.1	74.8	78.2	78.5	79.3	77.2	75.4	68.2	68.1	66.7	62.7	50.0	163.4
3150	60.0	67.8	72.2	74.7	75.6	76.9	73.7	72.7	62.9	63.7	62.7	55.9	39.9	164.3
4000	49.6	61.7	66.1	68.6	69.5	71.8	67.7	66.1	54.5	55.7	54.5	45.3	21.3	164.9
5000														
6300														
8000														
10000														
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	86.2	89.4	91.5	92.5	92.2	92.2	91.9	91.8	91.8	94.4	96.9	96.5	93.7	176.0
PNL	92.4	96.3	99.1	101.2	101.3	101.6	100.4	99.7	95.6	96.9	98.1	97.3	93.5	
PNLT	93.1	96.8	99.6	101.2	101.3	101.6	100.4	99.7	95.6	96.9	98.1	97.3	93.5	
DBA	83.3	86.9	89.4	91.0	90.7	90.7	89.3	88.3	83.7	84.5	84.8	84.3	80.7	

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MODEL AREA = 22.2 SQ CM ( 3.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 20.174 FREQ SHIFT = -13

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH287 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1681.6 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0101 TAPE = X01011 TEST PT NO = 0101 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0102 X0102C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63										79.2				109.2
80														
100													88.3	115.6
125														
160												77.6		106.5
200										72.5	76.4	80.4	85.4	115.0
250										73.9	81.4	83.2	85.5	117.1
315											83.4	84.6		116.8
400			68.5	69.7				73.3	78.6	76.8	86.5	86.2		120.0
500	67.2	69.1	69.8	71.0	72.2	72.1		74.2	80.6	79.5	88.9	87.3		122.1
630	67.2	70.7	71.4	72.5	73.8	74.3	75.1	76.8	83.2	81.8	92.1	88.8		124.7
800	69.6	71.5	73.3	73.8	75.5	75.8	78.1	79.7	86.4	84.8	95.4	90.6	84.4	127.8
1000	74.5	73.8	75.3	76.1	76.8	77.4	79.1	81.2	88.2	87.1	97.2	92.9	85.5	129.6
1250	74.5	77.9	77.6	78.2	78.9	79.7	81.4	82.9	89.6	88.5	98.0	93.2	88.0	130.6
1600	74.5	76.0	77.1	78.3	80.0	81.4	83.5	84.3	89.1	90.4	98.5	93.0	88.0	131.2
2000	77.9	76.8	78.2	79.3	80.6	82.0	84.8	86.1	89.8	91.6	97.4	91.9	87.0	130.8
2500	78.2	79.2	80.0	80.7	81.5	82.9	84.6	87.3	91.7	93.0	96.3	90.8	85.0	130.9
3150	79.8	80.9	80.6	80.8	81.2	83.1	85.8	86.3	91.0	91.8	95.1	89.3	83.1	130.1
4000	81.3	81.7	81.5	81.7	82.4	83.1	84.8	86.7	89.5	93.1	92.9	88.5	83.6	129.7
5000	85.8	85.5	83.9	82.5	82.3	83.8	84.7	86.6	88.7	93.5	93.2	88.7	84.2	130.3
6300	89.0	89.5	87.1	85.1	84.1	83.2	85.0	86.5	87.4	91.4	91.4	89.2	85.6	130.5
8000	91.4	92.5	90.5	88.7	85.3	84.8	85.2	86.3	85.9	91.6	90.5	87.8	85.7	132.0
10000	90.9	93.3	91.6	91.1	88.8	87.5	86.0	87.0	85.1	91.2	89.0	87.5	85.2	133.2
12500	89.6	90.7	91.2	91.9	90.0	89.3	87.0	86.2	82.5	89.4	86.7	86.3	83.8	133.5
16000	86.4	89.3	88.2	90.0	89.6	89.4	87.9	86.5	80.8	89.4	85.6	84.2	82.7	133.8
20000	84.2	86.3	86.2	88.0	87.5	87.8	87.9	86.2	79.3	88.4	84.3	83.0	81.1	134.1
25000	81.0	84.0	83.5	86.0	85.7	86.6	87.2	86.2	79.2	89.1	82.2	81.5	78.0	135.3
31500	75.2	78.7	78.2	82.1	80.9	82.0	81.2	81.8	75.7	86.5	78.9	76.8	71.8	134.1
40000	71.8	75.4	77.2	78.2	78.0	79.1	76.7	79.1	72.2	84.3	76.9	73.7	68.8	135.5
50000	67.3	71.8	78.6	73.6	74.8	75.8	74.2	74.3	66.5	81.3	73.1	70.4	64.8	136.7
63000	62.3	67.3	80.8	69.6	69.7	71.6	69.3	70.1	60.1	78.1	68.8	65.0	59.2	140.1
80000	55.0	64.8	82.2	62.1	62.9	65.5	62.8	63.2	51.6	74.0	62.6	58.1	50.3	146.0

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GASPL 97.8 99.3 98.5 98.5 97.4 97.4 97.5 98.1 100.2 103.1 106.7 102.5 98.1 149.4  
PNL 106.9 107.6 106.5 105.6 104.8 105.5 107.2 108.9 112.9 114.7 118.5 114.1 108.1  
PNLT 106.9 107.6 106.5 105.6 104.8 105.5 107.2 108.9 112.9 114.7 125.1 114.1 114.8  
DBA 95.5 96.6 95.1 94.3 93.4 93.9 95.3 96.8 100.5 102.6 107.1 102.3 97.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VERTCL = ADR315 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1708.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN  
RUNPT = 82F-400-0102 TAPE = X0102C TEST PT NO = 0102 NC = AE063 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0102 X0102F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	74.2	74.9	73.0	72.7	73.7	72.1	73.2	69.7	70.4	72.5	78.5	80.2	82.6	117.1
315	74.2	74.9	73.0	72.7	73.9	72.3	73.7	70.5	75.4	72.8	82.0	82.6	83.9	118.7
400	74.3	75.1	73.2	72.9	74.0	72.4	73.8	70.6	77.8	75.9	85.0	84.6	85.4	120.4
500	74.3	75.1	73.2	73.0	74.0	72.4	74.1	71.7	81.7	79.7	90.0	88.4	88.6	124.0
630	74.4	75.2	74.6	74.3	75.7	74.7	74.4	75.1	85.7	83.8	94.8	92.6	92.3	128.2
800	74.9	77.1	76.4	76.0	77.6	76.3	77.6	78.2	87.7	86.3	96.8	95.5	95.1	130.5
1000	77.3	77.9	78.3	77.4	78.7	78.1	78.7	79.8	88.4	86.8	96.7	94.9	96.7	130.8
1250	80.7	79.2	79.7	79.3	81.1	80.5	81.0	81.1	88.6	89.4	98.0	96.4	97.4	131.9
1600	81.2	83.8	82.4	81.7	82.4	82.4	83.4	83.2	89.8	91.2	97.4	95.0	97.1	132.0
2000	82.2	82.5	82.4	82.2	83.3	83.3	85.0	85.3	92.6	93.8	97.9	95.7	97.1	133.0
2500	85.6	83.4	83.5	83.3	84.4	84.5	85.3	87.0	92.2	93.0	97.1	94.7	95.8	132.6
3150	85.8	85.8	85.4	84.9	84.3	85.1	86.8	86.4	91.5	95.0	95.4	94.2	96.4	132.7
4000	86.2	86.7	85.6	84.8	85.9	85.7	86.6	87.6	90.8	95.4	95.6	94.2	96.7	133.0
5000	87.4	87.4	86.6	86.0	85.9	86.8	86.8	87.7	88.2	91.8	92.0	92.8	96.2	131.7
6300	91.8	90.9	88.5	86.4	87.7	86.2	86.5	86.5	86.9	92.1	91.3	91.6	96.4	132.4
8000	95.6	95.4	92.0	89.0	88.9	87.8	86.7	86.3	86.3	91.8	90.0	91.4	96.2	134.3
10000	97.8	98.1	95.3	92.5	92.3	90.5	87.4	86.9	83.9	90.3	87.9	90.5	95.0	136.7
12500	96.4	98.1	95.6	94.4	93.7	92.3	88.5	86.2	82.7	90.8	87.4	89.0	94.4	137.7
16000	93.7	94.6	94.8	94.9	93.6	92.4	89.4	86.5	81.6	90.2	86.4	88.2	93.3	138.0
20000	91.9	94.2	92.3	93.2	91.6	90.8	89.3	86.2	82.9	92.4	85.7	87.9	91.3	138.6
25000	89.5	90.9	89.9	90.7	89.8	89.6	88.9	86.7	81.0	91.6	84.7	86.1	88.5	139.1
31500	85.5	87.8	86.4	88.0	84.9	85.0	83.5	83.1	78.0	89.8	83.1	83.3	86.1	138.9
40000	78.9	81.6	80.3	83.2	82.1	82.1	81.0	80.2	72.3	86.7	79.1	79.9	82.0	138.8
50000	75.1	78.0	78.8	78.9	78.8	78.8	76.3	75.1	66.1	83.6	74.6	73.8	75.0	139.5
63000	69.7	73.4	79.3	73.4	73.8	74.6	70.9	70.2	59.1	81.0	69.9	68.4	67.6	141.5
80000	65.3	69.0	81.0	68.2	67.1	68.5	64.4	63.3	49.3	71.1	60.1	58.5	57.8	145.3
OASPL	103.7	104.4	102.5	101.7	101.1	100.2	98.9	98.1	100.9	104.4	107.0	105.7	108.0	151.0
PNL	111.6	111.5	109.4	107.9	108.6	108.3	108.9	109.3	113.4	116.4	118.7	117.4	119.7	
PNLT	111.6	111.5	109.4	107.9	108.6	108.3	108.9	109.3	113.4	116.4	118.7	117.4	119.7	
DBA	186.8	190.4	201.3	190.0	189.3	190.4	186.6	185.6	173.6	194.5	183.8	182.5	182.3	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH315 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1708.8 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0102 TAPE = X0102F TEST PT NO = 0102 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0102 X01021

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.0	66.1	67.6	67.4	69.1	68.6	69.1	69.8	77.6	75.0	83.4	79.4	77.8	156.9
63	67.4	67.4	69.0	69.3	71.5	71.0	71.4	71.1	77.9	77.6	84.6	79.9	78.5	158.0
80	67.8	71.9	71.6	71.6	72.8	72.9	73.8	73.1	79.1	79.4	84.0	79.4	78.1	158.1
100	68.7	70.6	71.6	72.1	73.6	73.8	75.4	75.3	81.8	82.0	84.4	80.1	77.9	159.1
125	72.0	71.4	72.7	73.2	74.7	74.9	75.6	76.9	81.3	81.0	83.5	78.9	76.5	158.6
160	72.1	73.7	74.5	74.7	74.5	75.5	77.0	76.2	80.6	82.9	81.8	78.2	76.7	158.8
200	72.4	74.5	74.6	74.5	76.1	76.0	76.7	77.3	79.8	83.2	81.7	78.0	76.6	159.1
250	73.4	75.1	75.4	75.6	75.9	77.1	76.9	77.3	77.1	79.4	78.0	76.3	75.7	157.8
315	77.6	78.4	77.2	75.9	77.7	76.4	76.5	76.0	75.6	79.6	77.1	74.7	75.2	158.5
400	81.2	82.8	80.7	78.6	78.9	78.0	76.7	75.9	75.0	79.3	75.5	74.2	74.3	160.4
500	83.4	85.7	84.1	82.2	82.5	80.9	77.6	76.7	72.8	77.8	73.5	73.1	72.6	162.8
630	82.1	85.9	84.8	84.5	84.3	83.0	79.1	76.3	71.9	78.6	73.1	71.5	71.7	163.8
800	80.1	83.2	84.8	85.9	85.1	84.0	80.8	77.5	71.7	78.8	72.8	71.2	70.5	164.1
1000	79.2	83.8	83.5	85.4	84.3	83.7	82.0	78.4	74.1	82.0	73.0	71.6	68.7	164.7
1250	78.1	82.0	82.6	84.5	84.1	83.2	80.5	73.8	82.7	73.3	70.8	66.3	65.2	
1600	75.5	80.6	81.0	83.7	81.3	81.6	80.0	78.9	72.6	82.6	73.1	69.0	63.8	165.0
2000	70.6	76.5	77.2	81.3	81.0	81.2	79.9	78.4	69.2	81.6	70.8	66.5	59.3	164.9
2500	67.6	74.2	77.5	79.0	79.8	80.0	77.3	75.2	64.8	79.8	67.2	60.3	50.1	165.6
3150	61.8	70.2	79.0	74.9	76.3	77.5	73.5	71.8	58.8	77.7	62.0	52.8	37.2	167.6
4000	54.9	64.7	80.6	70.2	70.3	72.2	67.6	65.2	48.8	66.8	49.7	37.7	16.6	171.4
5000														
6300														
8000														
10000														
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OF POOR QUALITY

GASPL	89.8	92.9	93.1	93.5	93.1	92.7	91.0	89.4	89.8	93.4	92.7	88.8	87.4	177.0
PNL	96.2	99.8	102.9	102.0	102.0	102.1	100.2	98.7	93.9	102.4	95.4	91.6	89.5	
PNLT	96.2	99.8	102.9	102.0	102.0	102.1	100.2	98.7	93.9	102.4	95.4	91.6	89.5	
DBA	87.6	91.4	92.1	92.9	92.3	91.9	89.9	87.7	82.3	90.9	83.0	80.4	78.7	

MODEL AREA = 22.2 SQ CM ( 3.4 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 20.174 FREQ SHIFT = -13

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH315 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1708.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0102 TAPE = X01021 TEST PT NO = 0102 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0109 X0109C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.3	80.8	80.8	79.9	79.0	79.3	80.2	79.4	82.8	85.6	88.3	94.5	89.6	127.2
63	88.4	90.0	85.5	84.3	89.1	87.0	89.1	85.5	82.7	87.2	81.7	98.9	93.5	132.1
80	86.2	90.7	87.2	88.0	87.6	89.7	91.1	89.8	87.2	90.0	92.7	94.9	97.0	132.6
100	86.2	92.5	88.0	90.6	91.2	91.0	92.2	93.3	90.8	93.4	96.0	99.4	101.6	135.7
125	82.7	85.4	88.2	89.9	91.1	91.5	92.8	92.2	91.7	96.3	100.9	104.1	105.5	138.5
160	84.4	82.2	86.7	87.3	87.6	87.2	94.4	89.5	92.2	96.9	101.7	104.9	107.8	139.4
200	85.8	85.1	86.1	87.9	89.0	90.1	92.8	92.9	94.1	98.6	103.1	107.3	110.2	141.5
250	84.5	89.1	88.3	89.1	88.7	90.8	93.7	95.6	99.6	104.3	109.0	111.5	112.4	145.4
315	85.9	88.4	87.7	89.6	91.8	93.4	96.6	95.7	102.2	106.4	110.6	113.3	113.5	147.0
400	85.5	89.0	89.8	90.7	91.7	91.8	104.9	96.8	104.8	109.1	113.5	114.9	114.1	149.1
500	87.5	89.8	89.8	91.8	91.9	93.8	96.9	97.8	106.6	110.9	115.3	115.9	114.6	150.2
630	87.7	89.5	91.7	92.6	93.4	95.0	96.9	99.5	107.2	111.8	116.4	116.9	115.3	151.1
800	91.7	91.7	93.2	94.2	94.6	96.0	98.4	101.3	108.2	113.0	117.7	116.9	115.5	151.9
1000	97.4	97.7	97.0	97.4	96.6	96.7	99.4	101.5	107.5	112.5	117.4	118.4	116.5	152.3
1250	97.3	100.3	100.1	101.0	99.9	100.8	101.4	103.1	106.8	111.9	117.0	117.9	116.0	152.1
1600	95.5	96.4	97.6	98.3	99.2	99.6	102.2	103.7	105.3	111.2	117.0	117.2	115.7	151.7
2000	101.3	99.2	98.8	98.0	97.8	98.9	101.7	103.7	104.8	110.2	115.6	116.2	112.5	150.4
2500	104.0	102.5	102.1	100.6	99.7	98.8	101.5	104.6	106.0	110.5	115.0	114.1	110.1	149.9
3150	101.6	102.7	103.2	102.5	100.5	100.1	102.0	104.2	105.5	110.2	114.9	112.0	108.1	149.4
4000	97.5	98.5	100.8	102.2	102.2	101.4	101.3	104.3	103.7	108.1	112.4	110.5	107.0	147.8
5000	96.0	97.3	98.4	99.1	100.8	102.0	102.2	103.5	103.2	107.7	112.2	109.2	105.7	147.3
6300	93.9	96.2	97.3	97.8	99.0	99.5	103.0	103.9	101.9	105.8	109.6	107.9	104.9	146.0
8000	91.8	95.1	96.4	97.6	97.1	99.2	101.4	103.7	99.9	104.1	108.2	106.2	103.1	145.1
10000	90.3	94.2	95.5	97.0	97.3	99.3	100.3	102.9	99.3	102.7	106.2	105.4	101.9	144.5
12500	89.1	91.7	94.3	96.2	95.9	97.9	98.7	101.1	96.9	100.5	104.1	103.6	100.7	143.5
16000	86.1	91.5	92.1	95.2	95.4	95.1	97.2	98.8	94.5	98.2	101.8	101.4	98.2	142.8
20000	84.5	88.6	90.2	93.1	93.9	94.4	95.2	96.1	91.1	95.6	100.1	99.4	96.5	142.6
25000	81.9	86.5	88.1	91.9	92.6	93.2	94.1	94.1	90.3	93.8	97.4	97.2	92.5	143.1
31500	76.2	81.5	83.8	87.7	87.3	88.9	88.9	89.2	85.5	89.9	94.2	92.3	86.1	141.8
40000	72.8	78.7	84.7	84.4	84.5	85.8	86.2	86.5	82.5	87.4	92.3	90.7	83.3	143.4
50000	69.0	75.2	86.8	79.6	81.1	82.3	81.5	83.0	79.9	85.6	91.2	88.5	80.9	145.8
63000	65.0	73.5	89.5	75.6	76.5	78.7	77.3	79.3	76.7	83.3	90.0	86.4	77.6	150.0
80000	60.0	72.6	91.4	69.7	71.3	73.7	72.0	73.5	71.1	79.2	87.3	82.7	70.7	156.1

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GASPL 109.5 110.1 110.7 111.0 111.0 111.5 113.9 115.2 117.5 122.2 127.0 127.2 125.6 163.5  
PNL 123.5 124.0 124.5 124.5 124.5 124.5 126.3 128.0 129.6 134.2 138.8 138.1 136.0  
PNLT 125.0 125.1 124.5 125.6 124.5 124.5 127.7 128.0 129.6 134.2 138.8 138.1 136.0  
DBA 110.2 110.4 110.8 110.9 110.7 111.1 113.0 114.9 117.0 121.8 126.7 126.6 124.5

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH295	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
1APLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 72.00	PAMB HG = 29.40	RELHUM = 81.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1697.7 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2214.6 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0109	TAPE = X0109C	TEST PT NO = 0109	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0109 X0109F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	83.3	80.8	80.8	79.9	79.0	79.3	80.2	79.4	82.8	85.6	88.3	94.5	89.6	127.2
63	88.4	90.0	85.5	84.3	89.1	87.0	89.1	85.5	82.7	87.2	81.7	98.9	93.5	132.1
80	86.2	90.7	87.2	88.0	87.6	89.7	91.1	89.8	87.2	90.0	92.7	94.9	97.0	132.6
100	86.2	92.5	88.0	90.6	91.2	91.0	92.2	93.3	90.8	93.4	96.0	99.4	101.6	135.7
125	82.7	85.4	88.2	89.9	91.1	91.5	92.8	92.2	91.7	96.3	100.9	104.1	105.5	138.5
160	84.4	82.2	86.7	87.3	87.6	87.2	94.4	89.5	92.2	96.9	101.7	104.9	107.8	139.4
200	85.8	85.1	86.1	87.9	89.0	90.1	92.8	92.9	94.1	98.6	103.1	107.3	110.2	141.5
250	84.5	89.1	88.3	89.1	88.7	90.8	93.7	95.6	99.6	104.3	109.0	111.5	112.4	145.4
315	85.9	88.4	87.7	89.6	91.8	93.4	96.6	95.7	102.2	106.4	110.6	113.3	113.5	147.0
400	85.5	89.0	89.8	90.7	91.7	91.8	104.9	96.8	104.8	109.1	113.5	114.9	114.1	149.1
500	87.5	89.8	89.8	91.8	91.9	93.8	96.9	97.8	106.6	110.9	115.3	115.9	114.6	150.2
630	87.7	89.5	91.7	92.6	93.4	95.0	96.9	99.5	107.2	111.8	116.4	116.9	115.3	151.1
800	91.7	91.7	93.2	94.2	94.6	96.0	98.4	101.3	108.2	113.0	117.7	116.9	115.5	151.9
1000	97.4	97.7	97.0	97.4	96.6	96.7	99.4	101.5	107.5	112.5	117.4	118.4	116.5	152.3
1250	97.3	100.3	100.1	101.0	99.9	100.8	101.4	103.1	106.8	111.9	117.0	117.9	116.0	152.1
1600	95.5	96.4	97.6	98.3	99.2	99.6	102.2	103.7	105.3	111.2	117.0	117.2	115.7	151.7
2000	101.3	99.2	98.8	98.0	97.8	98.9	101.7	103.7	104.8	110.2	115.6	116.2	112.5	150.4
2500	104.0	102.5	102.1	100.6	99.7	98.8	101.5	104.6	106.0	110.5	115.0	114.1	110.1	149.9
3150	101.6	102.7	103.2	102.5	100.5	100.1	102.0	104.2	105.5	110.2	114.9	112.0	108.1	149.4
4000	97.5	98.5	100.8	102.2	102.2	101.4	101.3	104.3	103.7	108.1	112.4	110.5	107.0	147.8
5000	96.0	97.3	98.4	99.1	100.8	102.0	102.2	103.5	103.2	107.7	112.2	109.2	105.7	147.3
6300	93.9	96.2	97.3	97.8	99.0	99.5	103.0	103.9	101.9	105.8	109.6	107.9	104.9	146.0
8000	91.8	95.1	96.4	97.6	97.1	99.2	101.4	103.7	99.9	104.1	108.2	106.2	103.1	145.1
10000	90.3	94.2	95.5	97.0	97.3	99.3	100.3	102.9	99.3	102.7	106.2	105.4	101.9	144.5
12500	89.1	91.7	94.3	96.2	95.9	97.9	98.7	101.1	96.9	100.5	104.1	103.6	100.7	143.5
16000	86.1	91.5	92.1	95.2	95.4	95.1	97.2	98.8	94.5	98.2	101.8	101.4	98.2	142.8
20000	84.5	88.8	90.2	93.1	93.9	94.4	95.2	96.1	91.1	95.6	100.1	99.4	96.5	142.6
25000	81.9	86.5	88.1	91.9	92.6	93.2	94.1	94.1	90.3	93.8	97.4	97.2	92.5	143.1
31500	76.2	81.5	83.8	87.7	87.3	88.9	88.9	89.2	85.5	89.9	94.2	92.3	86.1	141.8
40000	72.8	78.7	84.7	84.4	84.5	85.8	86.2	86.5	82.5	87.4	92.3	90.7	83.3	143.4
50000	69.0	75.2	86.8	79.6	81.1	82.3	81.5	83.0	79.9	85.6	91.2	88.5	80.9	145.8
63000	65.0	73.5	89.5	75.6	76.5	78.7	77.3	79.3	76.7	83.3	90.0	86.4	77.6	150.0
80000	60.0	72.6	91.4	69.7	71.3	73.7	72.0	73.5	71.1	79.2	87.3	82.7	70.7	156.1
8ASPL	109.5	110.1	110.7	111.0	111.0	111.5	113.9	115.2	117.5	122.2	127.0	127.2	125.6	163.5
PNL	123.5	124.0	124.5	124.5	124.5	124.5	126.3	128.0	129.6	134.2	138.8	138.1	136.0	
PNLT	125.0	125.1	124.5	124.5	124.5	124.5	127.7	128.0	129.6	134.2	138.8	138.1	136.0	
DBA	181.5	193.2	211.7	191.5	192.9	195.2	193.7	195.3	192.7	200.4	208.1	203.8	192.8	

ORIGINAL PAGE 19  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH295 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.40 RELHUM = 81.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1697.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2214.6 FPS AE18 = 16.0 SQ IN

RUNPT = 82F-ZER-0109 TAPE = X0109F TEST PT NO = 0109 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0109 X01091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.2	69.2	71.1	72.7	74.1	74.3	87.3	78.8	86.1	89.4	92.2	91.4	87.2	167.2
63	66.2	70.0	71.1	73.8	74.3	76.3	79.3	79.8	87.8	91.1	93.9	92.4	87.7	168.3
80	66.3	69.6	73.0	74.6	75.7	77.5	79.2	81.5	88.5	92.0	95.0	93.2	88.3	169.3
100	70.2	71.8	74.4	76.2	77.0	78.5	80.7	83.2	89.4	93.1	96.2	93.2	88.4	170.1
125	75.9	77.7	78.1	79.2	78.9	79.1	81.6	83.4	88.6	92.5	95.9	94.5	89.1	170.5
160	75.5	80.1	81.0	82.7	82.1	83.1	83.6	84.8	87.8	91.8	95.3	93.8	88.2	170.2
200	73.5	76.1	78.4	79.9	81.2	81.7	84.2	85.3	86.1	90.8	95.0	92.8	87.5	169.8
250	78.9	78.5	79.4	79.3	79.6	80.8	83.4	85.0	85.4	89.6	93.3	91.3	83.6	168.6
315	81.2	81.5	82.3	81.7	81.2	80.5	83.0	85.7	86.2	89.5	92.3	88.7	80.4	168.0
400	78.3	81.3	83.1	83.2	81.6	81.5	83.2	84.9	85.4	88.8	91.6	86.0	77.4	167.5
500	73.8	76.7	80.4	82.6	83.1	82.5	82.2	84.8	83.3	86.3	88.7	83.8	75.3	165.9
630	71.8	75.1	77.6	79.2	81.5	82.9	82.8	83.7	82.5	85.5	87.9	81.8	73.0	165.4
800	69.2	73.7	76.2	77.7	79.4	80.1	83.4	83.8	80.8	83.2	84.9	79.8	71.0	164.1
1000	66.6	72.3	75.2	77.3	77.4	79.6	81.6	83.4	78.6	81.2	83.1	77.5	68.1	163.2
1250	64.6	71.0	74.0	76.6	77.4	79.6	80.4	82.5	77.8	79.6	80.5	75.8	65.5	162.6
1600	62.6	68.0	72.3	75.4	75.7	77.9	78.5	80.3	74.9	76.7	77.5	72.7	61.8	161.7
2000	58.6	67.1	69.8	74.2	75.1	75.0	76.9	77.7	72.2	73.8	74.3	68.9	56.4	161.0
2500	55.2	63.0	67.0	71.3	73.0	73.8	74.4	74.4	67.9	70.0	70.8	64.0	49.8	160.7
3150	49.2	58.5	63.0	68.7	70.4	71.3	71.9	70.9	65.2	65.8	64.7	56.9	37.3	161.2
4000	37.3	48.7	54.9	61.2	62.1	64.1	63.7	62.7	56.6	57.1	55.4	43.0	16.4	159.9
5000	24.1	38.4	49.6	52.4	54.2	56.2	55.9	54.6	47.4	47.1	43.6	27.7		161.6
6300	2.5	20.6	39.6	36.9	40.8	42.8	41.2	40.3	32.7	31.0	24.8	1.4		163.9
8000			20.9	13.6	18.1	21.4	18.9	17.3	8.1	4.0				168.2
10000														174.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	86.6	88.7	90.4	91.5	91.8	92.5	94.9	95.7	97.9	101.5	104.7	102.4	97.0	181.4
PNL	91.3	94.3	96.7	98.2	98.7	99.5	101.0	102.1	101.4	104.5	107.2	103.9	97.1	
PNLT	92.0	94.8	96.7	98.7	99.2	99.5	101.0	102.1	101.9	105.1	107.2	105.1	97.1	
DBA	80.3	83.2	85.6	87.3	88.0	88.9	90.2	91.7	89.5	92.5	95.1	91.1	83.8	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICL	= ADH295		TEST DATE = 08-27-82		LOCAT		= C41 ANECH CH		CONFIG		= 1		MODEL = AX	
IAPLHA	= SB59		IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 72.00		PAMB HG = 29.40		RELHUM = 81.8 PCT		FLTVEL = 0. FPS	
WIND DIR	=		WIND VEL = MPH		EXT DIST = 2400.0 FT		EXT CONFIG = SL		MIKE HT =		NBFR =			
FNIN1	=		LBS XNL =		RPM XNH =		RPM V8 = 1697.7 FPS		AE8 = 3.4 SQ IN					
FNRAMB	=		LBS XNLR =		RPM XNHR =		RPM V18 = 2214.6 FPS		AE18 = 18.0 SQ IN					
RUNPT = 82F-ZER-0109    TAPE = X01091    TEST PT NO = 0109    NC = AE063    CORR FAN SPEED =    RPM														

ORIGINAL PHOTO  
OF POOR QUALITY

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0110 X0110C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.5	82.3	79.8	80.4	81.0	79.3	78.2	81.4	80.6	86.7	89.0	89.5	98.9	128.9
63	89.9	89.5	87.7	85.3	88.1	85.2	86.5	89.3	85.7	93.5	91.9	91.1	98.0	132.0
80	85.7	89.7	86.0	87.5	87.1	89.0	90.1	89.0	86.2	92.6	90.7	93.6	98.5	132.3
100	84.5	89.3	85.8	88.1	88.9	88.5	89.9	90.8	87.5	92.3	93.2	96.9	101.3	133.9
125	82.4	84.7	87.0	88.7	89.1	89.5	90.3	90.0	88.5	92.5	97.7	101.1	104.0	136.1
160	82.7	79.0	84.2	84.6	84.9	84.2	90.6	86.3	89.2	90.3	98.9	102.1	105.5	136.7
200	84.6	81.9	82.1	83.2	84.0	86.4	89.3	88.7	89.1	94.9	99.1	103.8	106.4	137.8
250	80.3	82.8	82.6	84.4	84.5	86.1	89.0	90.4	94.3	94.9	104.8	107.0	107.4	140.4
315	83.6	83.7	83.7	85.4	86.3	87.9	92.3	91.2	96.9	97.5	106.4	109.3	108.2	142.2
400	81.7	83.8	84.3	86.0	86.9	87.5	98.9	91.8	99.8	98.4	108.5	110.4	106.8	143.5
500	83.0	84.3	85.3	87.3	87.9	89.3	91.9	93.1	102.3	99.6	110.8	110.7	104.1	144.3
630	83.4	85.2	86.7	88.1	88.9	91.0	92.4	94.3	103.5	101.0	111.7	110.1	100.8	144.7
800	84.4	85.2	87.3	88.7	89.9	91.2	93.6	96.3	104.0	103.1	112.7	108.6	97.0	145.1
1000	87.2	86.7	88.5	89.9	90.4	92.2	94.9	97.0	103.5	103.8	111.4	108.6	95.3	144.1
1250	87.8	90.1	90.6	91.5	91.9	93.3	95.9	97.9	103.3	104.6	110.3	104.2	95.2	143.5
1600	89.5	89.4	90.4	91.6	92.5	94.6	96.9	99.5	101.9	105.7	109.3	102.2	94.5	143.1
2000	96.3	94.9	93.3	92.0	92.6	93.9	97.2	99.5	101.8	106.1	107.6	100.5	94.0	142.6
2500	98.3	99.3	98.8	97.4	94.7	95.6	96.7	100.6	102.7	106.3	106.5	99.6	93.4	143.1
3150	95.1	97.2	98.4	99.2	98.1	96.6	98.3	100.2	102.0	104.6	106.9	98.6	92.6	142.9
4000	90.8	92.2	94.6	96.9	98.4	98.4	98.3	100.4	101.2	105.4	105.2	99.0	92.7	142.4
5000	92.3	92.3	93.2	92.6	95.4	98.1	99.5	100.5	100.0	105.4	104.7	98.7	92.0	142.1
6300	92.5	93.3	93.6	93.4	93.8	95.5	98.8	100.2	99.9	104.3	103.1	97.9	91.4	141.4
8000	91.8	93.4	93.5	93.4	93.6	94.7	97.1	100.2	98.4	105.0	101.8	95.5	90.7	141.4
10000	91.1	93.8	94.1	94.6	94.1	95.6	96.8	99.3	97.9	104.0	100.5	95.5	90.0	141.4
12500	90.5	91.8	93.2	95.1	94.0	94.7	95.0	97.4	95.3	101.7	88.2	94.7	89.0	140.5
16000	88.3	91.4	91.1	93.6	93.8	93.8	94.1	94.9	92.5	99.8	96.3	92.6	87.6	140.2
20000	86.5	88.9	89.8	92.1	92.1	92.9	93.7	93.1	89.4	97.7	84.1	91.1	86.5	140.2
25000	83.0	86.9	88.0	90.5	91.0	92.8	93.0	92.3	87.7	96.8	81.7	89.1	84.1	141.5
31500	76.9	81.3	83.6	85.5	85.5	87.7	87.6	87.5	82.6	93.1	86.8	84.0	78.0	139.9
40000	73.7	78.5	84.7	81.8	82.4	84.2	83.8	84.7	79.0	90.3	83.5	80.3	74.4	141.0
50000	70.5	74.8	86.7	77.7	79.1	80.8	79.8	80.3	73.6	88.0	79.4	76.2	69.9	143.0
63000	65.5	72.2	88.7	72.9	74.1	76.5	74.9	76.2	67.4	84.6	75.4	71.2	64.2	147.0
80000	60.2	70.7	89.0	66.8	68.1	71.2	68.3	68.6	61.5	80.3	68.9	63.2	55.2	152.7

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OASPL 104.8 105.9 106.4 106.8 106.9 107.8 109.7 111.3 113.9 116.7 120.9 118.8 115.8 158.4  
PNL 118.5 119.5 119.8 120.4 120.3 120.9 122.4 124.1 126.2 129.3 131.9 127.4 123.2  
PNLT 119.0 121.0 119.8 120.4 120.3 121.4 123.5 124.1 126.2 129.3 131.9 127.4 123.2  
DBA 104.6 105.5 105.8 106.1 106.0 106.9 108.8 110.8 113.6 116.4 120.1 116.1 109.8

NA° DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH309	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.35	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1701.2 FPS	AE8 =	3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2202.7 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-0110	TAPE = X0110C	TEST PT NO = 0110	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0110 X0110F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	87.2	88.6	87.1	87.4	85.9	86.1	87.1	86.8	93.5	93.1	101.5	104.9	105.6	138.4
315	87.2	88.6	87.1	87.4	88.0	88.1	91.0	88.4	96.5	94.3	104.0	106.7	105.7	140.0
400	90.2	89.3	88.1	88.4	88.8	87.8	97.6	89.1	100.6	97.3	108.3	109.5	106.3	143.0
500	89.4	90.2	89.2	89.4	89.8	89.6	91.2	91.4	102.1	99.3	110.2	110.7	106.0	144.2
630	90.7	90.7	90.3	90.8	90.8	91.4	91.6	92.5	102.6	101.4	111.5	110.3	104.9	144.8
800	91.1	91.6	91.7	91.6	91.9	91.8	92.8	94.3	102.6	102.8	111.1	109.8	105.8	144.7
1000	92.1	91.7	92.3	92.3	92.5	92.9	94.2	95.2	102.6	103.8	110.1	107.5	105.9	143.9
1250	94.9	93.2	93.6	93.5	94.2	94.1	95.4	96.2	101.2	104.9	109.3	105.7	105.4	143.5
1600	95.2	96.4	95.6	95.1	94.9	95.6	96.6	98.0	101.5	105.6	107.9	104.2	105.2	143.3
2000	97.2	96.0	95.6	95.4	94.7	95.2	97.1	98.2	102.7	106.1	107.1	103.6	105.0	143.3
2500	103.1	100.8	97.8	95.2	97.1	97.2	97.0	99.7	102.5	104.9	107.9	103.2	104.7	144.0
3150	104.8	104.8	103.2	100.7	101.1	98.6	98.9	99.7	102.4	106.4	106.8	104.0	105.2	145.4
4000	101.2	102.8	103.3	103.2	102.1	101.0	99.6	100.5	101.2	106.3	106.2	103.7	104.4	145.3
5000	98.3	98.9	100.3	101.6	99.4	101.1	101.0	100.8	101.4	105.5	105.0	103.2	104.2	144.4
6300	99.8	99.0	99.0	97.4	97.8	98.5	100.5	100.6	99.8	106.0	103.4	100.6	103.2	143.6
74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
8000	99.2	99.5	99.1	97.9	97.6	97.7	98.7	100.5	99.7	105.5	102.6	101.0	103.0	143.6
10000	98.2	99.3	98.7	97.8	98.1	98.6	98.7	99.8	97.9	104.1	101.3	101.3	102.8	143.6
12500	98.0	99.9	99.3	98.8	98.0	97.7	97.2	98.4	96.0	103.2	100.3	99.9	102.2	143.8
16000	96.8	97.4	97.9	98.8	97.8	96.8	96.4	96.2	93.8	101.8	98.6	98.6	100.9	143.9
20000	94.2	96.6	95.4	96.9	96.2	95.9	96.2	94.8	92.8	101.8	97.3	97.9	100.0	144.6
25000	91.8	93.5	93.5	94.8	95.6	95.8	95.4	93.9	87.5	97.7	92.1	92.8	94.3	144.4
31500	90.3	93.0	92.6	93.6	90.1	90.7	89.9	88.5	84.5	95.4	89.2	89.5	91.2	144.5
40000	83.4	86.5	87.4	87.7	86.8	87.2	85.9	85.5	78.6	92.5	84.2	84.1	84.8	144.0
50000	78.6	82.5	87.6	83.3	83.1	83.8	81.4	80.5	73.4	90.1	81.2	80.0	79.9	145.4
63000	72.3	76.1	87.2	77.3	78.2	79.5	76.5	76.3	68.9	87.2	76.1	73.4	72.4	147.6
80000	68.8	74.1	89.1	71.7	72.2	74.2	69.8	68.6	59.1	77.4	66.3	63.6	62.6	152.8

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CASPL 111.2 111.4 110.9 110.4 110.0 109.8 110.3 110.8 113.6 117.0 120.2 118.9 117.7 159.2  
PNL 124.7 124.6 123.7 123.3 122.7 122.2 122.3 122.9 125.7 129.1 131.0 128.8 129.1  
PNLT 124.7 126.0 123.7 123.3 122.7 122.2 123.4 122.9 125.7 129.1 131.0 128.8 129.1  
DBA 190.1 195.1 209.4 193.7 194.2 195.8 192.0 191.2 182.8 200.8 190.0 187.7 187.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH309 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.35 RELHUM = 66.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1701.2 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2202.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0110 TAPE = X0110F TEST PT NO = 0110 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0110 X01101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.9	69.5	69.4	70.5	71.2	70.3	80.0	71.1	81.9	77.5	87.0	86.0	79.4	161.1
63	68.1	70.4	70.5	71.4	72.2	72.2	73.6	73.4	83.4	79.5	88.9	87.2	79.1	162.4
80	69.3	70.9	71.5	72.7	73.2	73.9	74.0	74.5	83.8	81.6	90.1	86.7	77.9	162.9
100	69.6	71.7	72.9	73.5	74.3	74.2	75.1	76.2	83.8	82.9	89.7	86.1	78.7	162.8
125	70.5	71.7	73.4	74.2	74.8	75.3	76.5	77.1	83.7	83.8	88.6	83.7	78.5	162.1
160	73.1	73.0	74.6	75.2	76.3	76.4	77.6	77.9	82.2	84.8	87.5	81.6	77.7	161.6
200	73.1	76.0	76.4	76.7	76.9	77.7	78.6	79.5	82.3	85.3	85.9	79.8	77.0	161.4
250	74.9	75.3	76.2	76.8	76.5	77.1	78.9	79.6	83.2	85.4	84.7	78.8	76.1	161.4
315	80.3	79.6	78.0	76.2	78.6	78.8	78.5	80.7	82.7	84.0	85.2	77.7	75.1	162.1
400	81.6	83.4	83.1	81.4	82.3	80.0	80.2	80.5	82.3	85.0	83.5	78.0	74.6	163.5
500	77.5	81.0	82.9	83.6	83.1	82.1	80.5	81.0	80.7	84.5	82.5	77.0	72.8	163.4
630	74.1	76.8	79.6	81.8	80.1	81.9	81.7	80.9	80.6	83.4	80.8	75.8	71.4	162.5
800	75.0	76.5	77.9	77.3	78.2	79.1	81.0	80.5	78.7	83.5	78.7	72.5	69.3	161.7
1000	74.1	76.7	77.8	77.6	77.9	78.2	79.0	80.2	78.4	82.6	77.4	72.3	68.0	161.7
1250	72.6	76.2	77.2	77.3	78.2	78.9	78.8	79.3	76.4	81.0	75.6	71.7	66.4	161.7
1600	71.4	76.1	77.3	78.0	77.9	77.8	77.1	77.6	74.1	79.4	73.8	69.0	63.3	161.9
2000	69.3	73.1	75.5	77.8	77.5	76.7	76.1	75.2	71.5	77.4	71.0	66.0	59.1	162.0
2500	64.9	71.0	72.2	75.2	75.3	75.3	75.3	73.1	69.6	76.2	68.0	62.5	53.3	162.7
3150	59.2	65.4	68.4	71.5	73.3	73.9	73.2	70.7	62.4	69.7	69.4	52.4	39.1	162.5
4000	51.4	60.3	63.7	67.1	64.9	65.9	64.6	62.0	55.6	62.6	50.3	40.2	21.6	162.6
5000	34.7	46.2	52.2	55.8	56.6	57.6	55.7	53.5	43.5	52.2	35.6	21.2		162.2
6300	12.1	28.0	40.4	40.6	42.8	44.3	41.1	37.7	26.1	35.5	14.7			163.5
8000			18.6	15.3	19.8	22.2	18.1	14.3	0.3	7.9				165.8
10000														170.9
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

ORIGINAL FROM THE  
OF POOR QUALITY

CASPL	87.4	89.3	90.1	90.5	90.7	90.6	91.1	91.1	93.9	95.4	98.0	94.2	88.1	177.3
PNL	94.1	96.8	97.7	99.1	99.2	99.2	99.3	98.6	98.5	101.8	100.3	95.2	89.9	
PNLT	94.1	97.3	98.3	99.7	99.7	99.2	99.3	98.6	98.5	102.4	100.3	95.2	89.9	
DBA	83.6	86.3	87.5	88.3	88.3	88.4	88.4	87.3	91.1	88.2	82.8	78.6		

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH309	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.35	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNINI =	LBS XNL =	RPM XNH =	RPM V8 = 1701.2 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2202.7 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-400-0110 TAPE = X01101 TEST PT NO = 0110 NC = AE063 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0111 X0111C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.3	81.3	80.8	80.1	81.5	80.1	79.2	81.1	85.3	90.3	95.3	94.7	90.6	129.8
63	91.4	89.5	87.7	86.1	88.4	87.5	86.9	87.3	91.5	95.8	100.2	99.1	94.8	135.1
80	86.9	91.5	88.0	88.8	88.9	90.2	91.1	90.3	87.7	91.0	94.2	95.9	97.8	133.4
100	86.7	92.8	88.8	91.8	92.2	91.3	92.9	93.8	90.8	94.0	97.2	99.9	102.6	136.5
125	83.4	86.2	89.2	91.2	92.1	92.5	93.1	93.0	92.5	97.2	101.9	105.1	106.3	139.4
160	84.4	83.2	87.7	87.3	88.4	88.2	94.9	90.5	93.2	98.2	103.2	106.1	108.5	140.5
200	86.8	85.9	86.6	88.9	90.3	91.4	94.5	93.9	94.6	99.7	104.8	108.5	110.9	142.6
250	86.0	89.6	89.6	90.4	90.0	91.1	94.7	96.1	100.1	105.1	110.0	112.5	112.9	146.2
315	86.4	89.2	88.7	90.4	92.6	93.9	97.6	96.7	102.2	106.8	111.4	114.3	114.5	147.8
400	86.5	89.3	90.3	91.7	92.4	93.0	105.9	97.8	106.0	110.1	114.2	115.7	114.6	149.9
500	88.2	89.8	90.8	92.3	93.2	94.3	97.7	98.6	107.6	111.9	116.3	116.9	114.8	151.1
630	88.4	91.0	92.2	93.6	94.4	95.7	97.6	99.8	108.5	112.8	117.2	117.4	116.0	151.9
800	92.2	93.2	94.0	94.7	95.9	96.5	99.1	101.8	109.5	113.8	118.2	117.9	116.5	152.7
1000	97.7	97.7	98.0	97.1	97.6	97.7	99.9	102.3	108.5	113.1	117.7	118.9	117.0	152.8
1250	97.5	101.3	101.3	101.7	101.2	101.1	102.2	103.1	107.6	112.5	117.5	118.7	116.2	152.7
1600	96.3	97.2	98.6	99.3	100.2	100.6	102.7	104.5	106.8	112.2	117.5	117.7	115.7	152.2
2000	101.5	99.9	99.1	99.0	98.6	99.4	102.7	104.7	106.3	111.5	116.6	116.0	112.5	151.0
2500	102.5	102.5	102.1	101.4	99.9	100.1	102.2	105.1	107.7	111.9	116.0	114.3	110.1	150.6
3150	100.6	101.7	101.9	102.5	101.5	101.4	103.0	105.0	106.5	111.1	115.6	112.3	107.8	149.9
4000	97.0	97.7	99.8	101.2	102.2	102.1	101.8	104.8	105.0	109.1	113.2	110.2	107.0	148.2
5000	96.0	97.3	98.4	98.8	100.1	101.5	102.9	104.5	104.5	108.3	112.2	109.2	105.7	147.5
6300	93.9	96.2	97.1	98.3	99.0	100.2	102.5	104.7	103.7	107.0	110.4	107.6	104.4	146.5
8000	92.0	95.6	97.2	98.1	98.1	99.9	101.1	104.2	101.9	105.1	108.2	105.2	101.9	145.3
10000	90.5	94.7	96.5	97.8	97.8	99.3	101.3	103.4	100.6	103.7	106.9	104.9	101.4	145.0
12500	89.1	92.5	95.0	97.2	96.9	98.4	99.2	101.6	98.1	101.4	104.6	103.1	99.7	144.0
16000	86.6	92.0	92.9	95.7	96.1	96.4	97.7	99.3	95.5	99.3	103.1	101.2	97.5	143.5
20000	84.8	88.6	91.0	94.6	94.9	95.4	95.7	96.3	93.1	97.0	100.8	98.9	95.3	143.2
25000	82.1	87.3	88.8	92.7	93.6	94.5	95.1	95.6	92.3	96.0	99.6	96.5	92.7	144.3
31500	76.2	82.5	83.8	88.2	87.8	89.7	90.2	90.5	87.5	91.5	95.5	92.5	86.8	142.8
40000	72.6	79.0	84.2	84.6	85.2	86.6	87.4	87.8	85.0	89.5	94.0	90.4	84.3	144.5
50000	69.0	75.7	86.8	81.1	82.1	83.6	83.3	84.3	81.7	86.6	91.5	88.7	81.7	146.4
63000	64.8	73.2	89.5	76.6	77.7	79.7	78.6	81.1	78.7	85.0	91.2	86.4	77.6	150.8
80000	60.3	74.1	91.2	70.7	72.3	74.9	73.0	75.8	73.9	81.6	89.3	82.4	70.7	156.6

ORIGINAL PAGE IS  
OF POOR QUALITY

OASPL 109.2 110.3 110.8 111.4 111.6 112.2 114.5 115.8 118.7 123.1 127.6 127.7 126.0 164.1  
PNL 122.9 123.7 124.2 124.8 124.8 125.2 127.0 128.7 130.8 135.1 139.5 138.4 136.1  
PNLT 122.9 125.0 125.2 125.9 124.8 125.2 128.4 128.7 130.8 135.1 139.5 138.4 136.1  
DBA 109.7 110.4 110.8 111.2 111.2 111.7 113.6 115.5 118.3 122.8 127.4 127.1 124.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH296 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.40 RELHUM = 81.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2293.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0111 TAPE = X0111C TEST PT NO = 0111 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0111 X0111F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.3	81.3	80.8	80.1	81.5	80.1	79.2	81.1	85.3	90.3	95.3	94.7	90.6	129.8
63	91.4	89.5	87.7	86.1	88.4	87.5	86.9	87.3	91.5	95.8	100.2	99.1	94.8	135.1
80	86.9	91.5	88.0	88.8	88.9	90.2	91.1	90.3	87.7	91.0	94.2	95.9	97.6	133.4
100	86.7	92.8	88.8	91.8	92.2	91.3	92.9	93.6	90.8	94.0	97.2	99.9	102.6	136.5
125	83.4	86.2	89.2	91.2	92.1	92.5	93.1	93.0	92.5	97.2	101.9	105.1	106.3	139.4
160	84.4	83.2	87.7	87.3	88.4	88.2	94.9	90.5	93.2	98.2	103.2	106.1	108.5	140.5
200	86.8	85.9	86.6	88.9	90.3	91.4	94.5	93.9	94.6	99.7	104.8	108.5	110.9	142.6
250	86.0	89.6	89.6	90.4	90.0	91.1	94.7	96.1	100.1	105.1	110.0	112.5	112.9	146.2
315	86.4	89.2	88.7	90.4	92.6	93.9	97.6	96.7	102.2	106.8	111.4	114.3	114.5	147.8
400	86.5	89.3	90.3	91.7	92.4	93.0	105.9	97.8	106.0	110.1	114.2	115.7	114.6	149.9
500	88.2	89.8	90.8	92.3	93.2	94.3	97.7	98.6	107.6	111.9	116.3	116.9	114.8	151.1
630	88.4	91.0	92.2	93.6	94.4	95.7	97.6	99.8	108.5	112.8	117.2	117.4	116.0	151.9
800	92.2	93.2	94.0	94.7	95.9	96.5	99.1	101.8	109.5	113.8	118.2	117.9	116.5	152.7
1000	97.7	97.7	98.0	97.1	97.6	97.7	99.9	102.3	108.5	113.1	117.7	118.9	117.0	152.8
1250	97.5	101.3	101.3	101.7	101.2	101.1	102.2	103.1	107.6	112.5	117.5	118.7	116.2	152.7
1600	96.3	97.2	98.6	99.3	100.2	100.6	102.7	104.5	106.8	112.2	117.5	117.7	115.7	152.2
2000	101.5	99.9	99.1	99.0	98.6	99.4	102.7	104.7	106.3	111.5	116.6	116.0	112.5	151.0
2500	102.5	102.5	102.1	101.4	99.9	100.1	102.2	105.1	107.7	111.9	116.0	114.3	110.1	150.6
3150	100.6	101.7	101.9	102.5	101.5	101.4	103.0	105.0	106.5	111.1	115.6	112.3	107.8	149.9
4000	97.0	97.7	99.8	101.2	102.2	102.1	101.8	104.8	105.0	109.1	113.2	110.2	107.0	148.2
5000	96.0	97.3	98.4	98.8	100.1	101.5	102.9	104.5	104.5	108.3	112.2	109.2	105.7	147.5
6300	93.9	96.2	97.1	98.3	99.0	100.2	102.5	104.7	103.7	107.0	110.4	107.6	104.4	146.5
8000	92.0	95.6	97.2	98.1	98.1	99.9	101.1	104.2	101.9	105.1	108.2	105.2	101.9	135.3
10000	90.5	94.7	96.5	97.8	97.8	99.3	101.3	103.4	100.6	103.7	106.9	104.9	101.4	145.0
12500	89.1	92.5	95.0	97.2	96.9	98.4	99.2	101.6	98.1	101.4	104.6	103.1	99.7	144.0
16000	86.6	92.0	92.9	95.7	96.1	96.4	97.7	99.3	95.5	99.3	103.1	101.2	97.5	143.5
20000	84.8	88.6	91.0	94.6	94.9	95.4	95.7	96.3	93.1	97.0	100.8	98.9	95.3	143.2
25000	82.1	87.3	88.8	92.7	93.6	94.5	95.1	95.6	92.3	96.0	99.6	96.5	92.7	144.3
31500	76.2	82.5	83.8	88.2	87.8	89.7	90.2	90.5	87.5	91.5	95.5	92.5	86.8	142.8
40000	72.6	79.0	84.2	84.6	85.2	86.6	87.4	87.8	85.0	89.5	94.0	90.4	84.3	144.5
50000	69.0	75.7	86.8	81.1	82.1	83.6	83.3	84.3	81.7	86.6	91.5	88.7	81.7	146.4
63000	64.8	73.2	89.5	76.6	77.7	79.7	78.6	81.1	78.7	85.0	91.2	86.4	77.6	150.8
80000	60.3	74.1	91.2	70.7	72.3	74.9	73.0	75.8	73.9	81.6	89.3	82.4	70.7	156.6

ORIGINAL PAGE IS  
OF POOR QUALITY

OASPL 109.2 110.3 110.8 111.4 111.6 112.2 114.5 115.8 118.7 123.1 127.6 127.7 126.0 164.1  
PNL 122.9 123.7 124.2 124.8 124.8 125.2 127.0 128.7 130.8 135.1 139.5 138.4 136.1  
PNLT 122.9 125.0 125.2 125.9 124.8 125.2 128.4 128.7 130.8 135.1 139.5 138.4 136.1  
DBA 181.7 194.5 211.5 192.6 194.0 196.4 194.8 197.3 195.3 202.6 210.0 203.6 192.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH296 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.40 RELHUM = 81.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2293.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0111 TAPE = X0111F TEST PT NO = 0111 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0111 X01111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.2	69.5	71.6	73.7	74.8	75.6	88.3	79.8	87.3	90.4	92.9	92.2	87.7	168.0
63	66.9	70.0	72.1	74.3	75.6	76.8	80.1	80.6	88.3	92.1	94.9	93.4	87.9	169.2
80	67.0	71.1	73.5	75.6	76.7	78.2	80.0	81.7	89.7	93.0	95.8	93.7	89.0	170.0
100	70.7	73.3	75.2	76.7	78.2	79.0	81.5	83.7	90.7	94.0	96.7	94.2	89.4	170.9
125	76.1	77.7	79.1	79.0	79.9	80.1	82.1	84.1	89.6	93.1	96.1	95.0	89.6	170.9
160	75.7	81.1	82.3	83.4	83.3	83.3	84.3	84.8	88.5	92.4	95.8	94.6	88.5	170.8
200	74.3	76.8	79.4	80.9	82.2	82.7	84.7	86.0	87.6	91.8	95.5	93.3	87.5	170.3
250	79.2	79.3	79.5	80.3	80.3	81.3	84.4	86.0	86.9	90.9	94.3	91.1	83.6	169.2
315	79.7	81.5	82.3	82.4	81.5	81.7	83.8	86.2	88.0	90.9	93.3	88.9	80.4	168.8
400	77.3	80.3	81.8	83.2	82.8	82.7	84.2	85.7	86.4	89.7	92.4	86.2	77.1	168.1
500	73.3	75.9	79.4	81.6	83.1	83.2	82.7	85.3	84.5	87.3	89.4	83.5	75.3	166.4
630	71.8	75.1	77.6	79.0	80.7	82.4	83.6	84.7	83.7	86.2	87.9	81.8	73.0	165.7
800	69.2	73.7	76.0	78.2	79.4	80.8	82.9	84.6	82.6	84.5	85.6	79.5	70.5	164.7
1000	66.9	72.8	75.9	77.8	78.4	80.4	81.4	83.9	80.6	82.2	83.1	76.5	66.9	163.5
1250	64.9	71.5	75.0	77.3	77.9	79.6	81.4	83.0	79.1	80.6	81.2	75.3	65.0	163.2
1600	62.6	68.7	73.1	76.4	76.7	78.4	79.0	80.8	76.2	77.6	78.0	72.2	60.8	162.1
2000	59.1	67.6	70.6	74.7	75.8	76.3	77.4	78.2	73.2	74.9	75.6	68.6	55.6	161.7
2500	55.5	63.0	67.8	72.8	74.0	74.8	74.9	74.6	69.9	71.4	71.5	63.5	48.5	161.3
3150	49.5	59.3	63.7	69.4	71.4	72.6	72.9	72.4	67.2	67.9	67.0	56.1	37.6	162.5
4000	37.3	49.7	54.9	61.7	62.6	64.9	64.9	63.9	58.6	58.8	56.6	43.3	17.2	160.9
5000	23.9	38.7	49.1	52.7	55.0	56.9	57.2	55.8	49.9	49.2	45.4	27.4		162.7
6300	2.5	21.1	39.6	38.4	41.8	44.0	43.0	41.5	34.5	32.0	25.0	1.6		164.6
8000			20.9	14.6	19.3	22.4	20.2	19.1	10.1	5.6				168.9
10000														174.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	86.2	88.9	90.5	91.9	92.5	93.2	95.6	96.4	99.1	102.4	105.3	103.0	97.4	182.0
PNL	90.6	94.1	96.5	98.6	99.4	100.3	101.6	102.7	102.8	105.6	107.8	104.2	97.2	
PNLT	90.6	94.8	97.0	99.2	99.9	100.3	101.6	102.7	102.8	106.1	108.8	105.3	98.2	
DBA	79.8	83.1	85.5	87.6	88.4	89.5	90.7	92.3	90.9	93.5	95.7	91.2	83.8	

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OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS-2-166

VEHICLE = ADH296	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 72.00	PAMB HG = 29.40	RELHUM = 81.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1689.9 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2293.9 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0111 TAPE = X01111 TEST PT NO = 0111 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0112 X0112C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.5	83.1	80.3	80.3	81.2	79.6	79.2	80.9	80.8	87.4	89.8	89.2	100.6	130.1
63	89.7	89.2	86.2	86.3	89.9	86.5	86.9	86.0	83.0	94.0	91.4	90.9	100.0	132.5
80	86.9	91.0	88.0	88.8	87.9	89.7	90.4	89.3	87.5	93.8	91.7	94.4	100.8	133.6
100	86.5	91.0	86.8	89.6	89.9	89.8	91.2	91.8	88.5	93.6	95.0	98.7	103.6	135.6
125	83.9	86.2	88.0	89.7	90.6	90.7	91.3	91.2	89.5	93.8	99.4	102.8	105.5	137.6
160	83.4	79.7	85.0	85.8	86.1	86.0	91.9	87.5	90.7	91.5	100.7	103.4	106.8	138.0
200	85.1	83.1	83.1	84.2	85.3	87.1	90.5	90.4	90.4	95.9	99.6	104.5	108.2	139.0
250	81.3	84.6	84.3	86.1	85.7	88.1	90.5	92.4	96.1	96.4	105.8	109.2	109.6	142.3
315	84.1	84.7	84.4	86.9	87.6	88.9	93.8	92.0	98.4	98.7	107.4	110.6	110.5	143.7
400	83.2	84.8	86.0	87.0	88.2	88.8	100.4	93.1	101.3	99.6	110.5	111.9	108.8	145.2
500	84.0	85.0	86.3	88.3	88.9	90.3	92.9	94.3	103.8	101.1	112.5	112.9	106.1	146.2
630	83.9	86.2	88.2	89.1	89.9	91.2	92.9	96.0	105.0	102.3	113.2	112.4	103.3	146.4
800	86.2	86.5	89.0	90.0	91.1	92.2	94.6	98.0	105.5	104.3	114.2	110.6	99.5	146.7
1000	88.9	88.5	89.7	91.1	91.6	93.2	95.6	98.3	105.2	105.3	113.7	109.4	98.0	146.3
1250	89.3	92.3	92.3	93.0	92.7	94.8	96.7	98.9	105.3	106.1	112.8	106.7	97.5	145.6
1600	94.0	93.2	92.9	92.8	94.0	95.1	98.2	100.2	103.9	107.2	111.3	104.2	96.5	144.8
2000	99.5	98.7	97.6	95.0	93.8	95.2	98.4	100.7	103.6	107.1	110.1	102.5	96.0	144.6
2500	99.3	100.3	100.8	100.4	97.2	96.6	98.5	101.4	104.7	108.0	109.3	102.6	95.1	145.1
3150	95.4	97.2	99.2	100.5	100.6	99.4	99.5	101.7	104.8	106.4	109.9	102.6	95.6	145.1
4000	92.5	93.5	95.3	96.9	99.2	100.4	100.0	102.1	103.5	107.4	108.2	102.0	95.5	144.5
5000	92.3	94.3	95.2	95.3	96.1	98.1	100.5	101.8	102.8	107.6	108.2	101.2	95.5	144.3
6300	91.0	93.3	93.6	94.9	96.0	96.2	99.5	102.0	102.2	106.1	105.9	99.7	93.9	143.2
8000	90.8	93.4	94.2	95.4	94.9	96.0	98.6	102.2	100.9	106.0	103.8	97.8	92.4	142.9
10000	90.9	93.5	94.3	95.6	95.1	96.3	98.1	101.0	99.9	106.0	102.7	97.2	91.7	143.0
12500	90.2	92.1	93.9	95.1	93.7	95.5	96.5	98.9	97.5	102.9	100.7	96.0	91.5	141.8
16000	89.3	93.4	93.1	95.1	93.5	94.0	95.6	97.4	95.0	101.0	99.3	94.1	89.9	141.8
20000	87.3	90.9	92.0	94.6	93.1	93.2	94.7	94.8	91.9	99.5	97.1	92.9	89.0	142.0
25000	84.0	88.2	89.7	92.0	92.5	93.1	93.7	94.5	91.2	98.6	94.2	91.6	86.3	143.1
31500	78.1	82.8	84.8	88.0	87.3	88.7	88.9	89.7	85.3	94.6	89.8	86.5	80.3	141.7
40000	74.7	80.5	85.0	84.8	83.9	85.5	86.6	87.0	81.3	92.6	87.0	83.0	76.7	143.1
50000	70.9	76.5	87.4	80.2	81.1	82.1	82.3	82.3	76.1	90.0	82.8	78.5	71.9	144.8
63000	66.3	73.9	89.9	75.4	76.3	78.0	77.7	78.5	72.6	88.1	79.7	73.2	65.7	149.0
80000	60.5	72.5	90.0	69.5	69.5	72.7	70.8	71.0	68.5	84.3	73.8	65.2	56.7	154.2
CASPL	106.0	107.1	107.8	108.4	108.2	108.9	111.0	112.7	115.9	118.2	123.0	120.8	117.8	160.1
PNL	119.5	120.6	121.2	121.9	122.0	122.4	123.7	125.5	128.4	131.0	134.4	129.7	125.5	
PNLT	119.5	120.6	121.2	121.9	122.0	122.4	124.9	125.5	128.4	131.0	134.4	129.7	125.5	
DBA	106.1	106.8	107.5	107.8	107.6	108.2	110.0	112.2	115.6	118.0	122.4	118.4	112.0	

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NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VERTCL = ADH308	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEQA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.40	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1706.7 FPS	AE8 =	3.4 SQ IN
FNAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2301.5 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-0112	TAPE = X0112C	TEST PT NO = 0112	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0112 X0112F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.6	90.6	89.0	89.3	87.2	88.1	88.6	88.8	95.0	94.4	102.5	106.1	107.9	139.9
315	88.6	90.6	89.0	89.3	89.3	89.1	92.5	89.2	98.0	95.5	106.0	108.2	107.7	141.7
400	91.2	90.7	89.1	90.1	90.0	89.0	99.1	90.3	102.0	98.7	109.9	111.6	108.1	144.8
500	90.9	91.1	91.0	90.4	90.8	90.6	92.2	92.6	103.8	100.8	111.9	113.0	108.5	146.2
630	91.7	91.4	91.3	91.8	91.8	91.6	92.2	94.4	104.2	102.8	113.2	112.5	107.5	146.6
800	91.6	92.6	93.2	92.6	93.2	92.8	93.9	96.1	104.5	104.5	113.6	112.7	108.6	147.1
1000	93.9	92.9	94.1	93.6	93.7	93.9	95.0	96.6	104.6	105.3	112.7	110.0	108.2	146.2
1250	96.0	94.6	94.6	94.6	94.9	95.6	96.2	97.2	103.3	106.5	111.3	107.7	107.4	145.3
1600	96.0	98.2	97.1	96.4	95.9	96.1	97.9	98.8	103.3	106.7	110.5	106.3	107.3	145.1
2000	99.2	97.6	96.5	95.6	96.0	96.5	98.4	99.5	104.7	107.8	109.8	106.6	106.7	145.3
2500	106.6	104.7	102.3	98.4	99.6	98.2	98.7	100.4	105.4	106.9	111.2	107.4	107.9	146.9
3000	105.4	105.4	105.0	103.6	103.8	101.4	100.2	101.3	104.8	108.5	109.9	107.2	108.1	147.6
4000	102.9	103.8	104.8	104.9	103.4	103.0	101.4	102.3	104.1	108.7	110.0	106.5	108.1	147.6
5000	102.9	102.5	102.8	102.7	100.1	101.1	102.1	102.1	103.6	107.2	107.7	105.0	106.6	146.3
6300	99.8	101.0	101.0	100.2	100.1	99.2	101.1	102.3	102.4	107.2	105.6	103.0	105.1	145.2
8000	98.3	99.8	99.3	99.6	98.9	99.0	100.4	102.6	101.4	107.2	104.6	102.5	104.5	145.1
10000	98.0	99.8	99.8	100.0	99.1	99.3	99.7	101.3	100.4	105.7	104.1	102.7	105.4	145.1
12500	97.7	99.7	99.5	99.8	97.8	98.5	98.8	100.1	98.5	104.4	103.3	101.4	104.4	145.0
16000	96.6	97.7	98.6	98.8	97.6	97.0	97.9	98.7	96.1	103.3	101.3	100.1	103.2	145.1
20000	95.2	98.6	97.4	98.4	97.2	96.2	97.1	96.4	96.0	103.3	99.5	100.1	102.0	146.2
25000	92.6	95.5	95.7	97.3	96.5	96.1	96.1	96.0	90.2	99.2	95.0	95.2	96.4	146.0
31500	88.5	92.0	92.6	94.0	91.9	91.7	91.1	90.7	86.5	97.4	92.5	91.9	93.2	145.6
40000	84.6	88.0	88.6	90.2	88.4	88.5	88.6	87.6	81.0	94.5	87.7	86.3	86.7	146.0
50000	80.2	84.9	88.1	86.5	85.1	85.1	83.8	82.4	78.5	93.5	85.4	82.0	81.3	147.9
63000	73.3	78.2	88.1	79.9	80.5	81.0	79.1	78.4	75.8	91.2	81.1	75.4	73.8	150.2
80000	69.5	75.8	90.3	74.2	73.7	75.7	72.2	71.0	66.0	81.4	71.2	65.6	64.0	154.3
CASPL	112.7	112.8	112.6	112.1	111.3	110.9	111.6	112.4	115.8	118.7	122.6	121.3	120.0	161.1
PNL	125.9	125.8	125.4	125.0	124.3	123.7	123.6	124.5	127.9	131.0	133.8	131.5	131.7	
PNLT	127.3	126.9	125.4	125.0	124.3	123.7	124.8	124.5	127.9	131.0	133.8	131.5	131.7	
DBA	190.9	196.9	210.6	196.2	195.9	197.3	194.5	193.4	189.4	204.7	184.8	189.7	188.5	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23186

VEHICL = ADH308	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.40	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNLR =	RPM XNH =	RPM	V8 = 1.05.7 FPS	AE8 = 3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM	V18 = 2301.5 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-400-0112 TAPE = X0112F TEST PT NO = 0112 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, S0 2400.0 FT. SL

IDENTIFICATION - 82F-400-0112 X01121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.9	70.9	70.4	72.1	72.4	71.6	81.5	72.4	83.3	78.9	88.6	88.1	81.3	162.9
63	69.5	71.3	72.3	72.4	73.2	73.2	74.6	74.6	85.1	81.0	90.5	89.5	81.6	164.3
80	70.3	71.6	72.5	73.7	74.2	74.1	74.6	76.4	85.5	83.0	91.8	88.9	80.5	164.8
100	70.1	72.7	74.4	74.5	75.5	75.2	76.2	78.1	85.7	84.6	92.1	89.0	81.5	165.2
125	72.3	72.9	75.2	75.4	76.0	76.3	77.3	78.4	85.7	85.3	91.1	86.2	80.8	164.3
160	74.3	74.4	75.6	76.3	77.0	77.9	78.3	78.9	84.2	86.3	89.6	83.6	79.7	163.4
200	74.0	77.3	77.9	78.0	77.9	78.2	79.9	80.3	84.1	86.3	88.4	81.9	79.0	163.2
250	76.9	77.0	77.0	76.9	77.8	78.4	80.1	80.8	85.2	87.2	87.4	81.8	77.8	163.4
315	83.9	83.7	82.5	79.4	81.1	79.8	80.3	81.5	85.6	85.9	88.4	82.0	78.2	165.1
400	82.1	84.1	84.9	84.3	85.0	82.8	81.5	82.1	84.7	87.1	86.7	81.1	77.4	165.7
500	79.2	82.1	84.3	85.3	84.4	84.1	82.3	82.8	83.6	86.9	86.2	79.7	76.5	165.7
630	78.6	80.3	82.0	82.9	80.8	81.9	82.7	82.3	82.8	85.1	83.5	77.6	73.9	164.4
800	75.0	78.5	79.9	80.0	80.5	79.8	81.5	82.2	81.3	84.6	80.8	74.9	71.3	163.4
1000	73.1	77.0	78.0	79.3	79.2	79.4	80.6	82.3	80.1	84.4	79.4	73.7	69.5	163.2
1250	72.3	76.6	78.2	79.5	79.2	79.7	79.8	80.8	78.9	82.5	78.4	73.1	68.9	163.2
1600	71.2	75.9	77.6	79.0	77.6	78.5	78.6	79.3	76.6	80.7	76.8	70.5	65.5	163.1
2000	69.1	73.3	76.3	77.8	77.3	77.0	77.6	77.7	73.8	79.0	73.8	67.5	61.4	163.2
2500	65.9	73.0	74.2	76.7	76.3	75.6	76.3	74.7	72.8	77.7	70.2	64.7	55.3	164.3
3150	59.9	67.4	70.6	74.0	74.3	74.2	73.9	72.7	65.1	71.2	62.4	54.8	41.3	164.1
4000	49.6	59.2	63.7	67.4	66.7	66.9	65.8	64.1	57.6	64.7	53.6	42.7	23.5	163.7
5000	35.9	47.7	53.5	58.3	58.2	58.8	58.4	55.6	45.9	54.2	39.0	23.3		164.1
6300	13.7	30.4	40.9	43.8	44.8	45.6	43.5	39.6	31.3	39.0	18.9			166.0
8000			19.8	18.0	22.0	23.7	20.7	16.5	7.3	11.8				168.4
10000														172.4
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	89.1	90.9	91.9	92.2	92.1	91.7	92.4	92.6	96.0	97.1	100.3	96.6	90.5	179.2
PNL	95.2	97.9	99.2	100.5	100.3	100.0	100.5	100.4	100.8	103.4	103.1	97.8	92.5	
PNLT	95.9	98.4	99.2	101.1	100.8	100.0	100.5	100.4	101.3	104.1	103.1	97.8	92.5	
DBA	84.9	87.6	89.0	89.9	89.4	89.3	89.6	90.1	89.7	92.8	91.0	85.2	81.2	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH308      TEST DATE = 08-27-82      LOCAT = C41 ANECH CH      CONFIG = 1      MODEL = AX      FLTVEL = 400. FPS  
IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 76.00      PAMB HG = 29.40      RELHUM = 66.8 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1705.7 FPS      AE8 =      3.4 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2301.5 FPS      AE18 =      18.0 SQ IN

RUNPT = 82F-400-0112      TAPE = X01121      TEST PT NO = 0112      NC = AE063      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0113 X0113C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	83.1	80.3	81.1	81.0	80.8	81.5	86.1	86.1	88.4	94.5	94.5	94.9	130.1
63	91.4	91.0	86.7	86.8	88.9	89.0	90.4	92.8	90.2	93.5	99.4	98.1	99.0	135.2
80	88.2	92.0	88.5	89.5	89.6	91.5	92.6	91.0	88.7	94.8	94.2	96.6	98.8	134.5
100	88.5	94.0	90.0	93.1	93.2	92.5	94.2	95.3	92.5	97.3	98.5	101.9	104.3	138.2
125	84.4	87.2	90.2	91.9	92.6	93.5	94.6	94.5	93.7	98.0	103.2	105.8	107.3	140.4
160	85.9	83.7	88.7	89.1	88.9	89.2	96.6	91.3	95.0	95.8	104.4	107.1	110.0	141.6
200	87.6	86.6	87.9	89.4	90.8	92.6	95.0	94.4	95.9	101.4	105.6	109.5	112.2	143.7
250	86.5	90.3	90.3	91.1	90.7	91.8	95.5	97.1	101.8	101.9	111.5	113.7	113.9	147.2
315	87.4	90.2	89.2	91.4	93.6	94.9	98.6	97.2	104.2	104.7	112.9	115.6	115.2	148.8
400	87.7	90.8	91.3	92.5	93.4	93.8	106.4	98.6	107.3	106.1	115.7	117.4	115.3	150.8
500	89.2	90.5	91.6	93.3	93.9	95.5	98.2	99.1	108.8	107.4	117.5	117.4	115.8	151.5
630	89.9	92.0	93.0	94.4	94.6	97.0	98.4	100.3	109.5	109.0	118.4	118.4	116.8	152.5
800	93.4	93.0	95.0	95.0	96.6	97.2	99.4	102.3	110.5	110.6	119.7	119.1	117.0	153.5
1000	97.9	98.2	98.0	98.6	98.9	98.5	100.9	102.8	110.0	111.3	119.4	119.6	117.5	153.7
1250	98.5	101.6	101.6	102.5	101.9	102.6	103.2	104.1	109.3	112.1	119.3	119.2	117.2	153.6
1600	100.8	99.7	99.6	100.1	100.7	101.3	103.2	105.0	108.1	112.9	119.3	118.7	116.2	153.4
2000	106.0	103.7	103.1	100.7	99.6	100.9	102.9	105.0	107.8	112.6	118.1	116.7	113.0	152.3
2500	106.0	105.8	106.1	105.8	103.2	101.6	103.0	106.4	108.7	113.3	117.3	114.8	111.1	152.0
3150	102.9	103.4	105.4	105.5	105.5	104.4	104.2	105.5	108.5	111.9	116.9	112.8	109.1	151.3
4000	99.5	100.5	102.3	103.7	104.7	105.4	104.8	105.8	106.5	112.2	114.4	111.2	107.2	150.1
5000	98.5	100.3	101.1	101.8	102.6	104.3	105.9	106.0	106.2	112.6	113.7	110.0	105.7	149.8
6300	98.4	98.0	99.8	101.1	102.5	102.2	104.8	106.4	105.2	110.5	111.9	108.1	104.4	148.5
8000	94.3	97.6	99.2	100.1	100.6	102.2	103.6	106.2	103.4	110.9	110.0	106.0	103.1	148.0
10000	93.3	97.2	98.0	99.8	100.3	101.5	103.3	105.2	102.3	110.4	108.7	105.4	101.4	147.8
12500	91.9	95.0	97.0	99.2	98.4	100.4	101.2	103.3	100.1	108.0	106.6	103.4	100.4	146.6
16000	89.4	94.2	94.9	98.2	98.6	98.4	99.7	101.5	97.8	106.1	105.1	101.7	98.5	146.3
20000	87.5	91.4	93.0	96.8	97.1	97.4	97.7	98.3	94.6	103.4	102.8	98.9	96.9	145.8
25000	84.6	89.3	90.6	94.9	95.9	96.7	96.9	97.1	93.8	102.9	100.6	97.5	92.7	146.9
31500	78.7	84.0	85.3	90.0	90.1	91.9	91.7	92.2	88.8	98.7	86.5	93.3	86.8	145.4
40000	75.6	81.0	85.0	86.6	87.2	88.6	88.9	89.5	87.0	96.7	95.3	90.9	83.3	147.2
50000	71.5	77.2	86.3	83.1	84.3	85.8	85.3	86.5	85.2	95.2	93.5	89.2	80.2	149.7
63000	67.3	75.0	89.5	78.6	80.0	82.2	80.8	83.8	83.2	94.0	92.0	86.4	76.9	153.5
80000	61.3	73.6	91.9	73.2	74.8	77.4	75.5	78.8	78.6	93.1	90.3	83.4	71.5	159.5

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OF POOR QUALITY

CASPL 112.1 112.4 113.2 113.7 113.7 114.2 115.9 117.0 120.1 123.6 129.1 128.6 126.8 165.9  
 .NL 125.8 126.2 126.9 127.2 127.4 127.6 128.6 129.7 132.4 136.1 140.9 139.2 136.8  
 PNLT 125.8 126.9 126.9 128.3 127.4 127.6 130.0 129.7 132.4 136.1 140.9 139.2 136.8  
 DBA 112.8 112.8 113.5 113.6 113.6 113.6 115.1 116.5 119.7 123.4 128.9 127.9 125.5

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH297 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.40 RELHUM = 81.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNINT = LBS XNL = RPM XNH = RPM V8 = 1686.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2372.4 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0113 TAPE = X0113C TEST PT NO = 0113 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0113 X0113F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	83.1	80.3	81.1	81.0	80.8	81.5	86.1	86.1	88.4	94.5	94.5	94.9	130.1
63	91.4	91.0	86.7	86.6	88.9	89.0	90.4	92.8	90.2	93.5	99.4	98.1	99.0	135.2
80	88.2	92.0	88.5	89.5	89.6	91.5	92.6	91.0	88.7	94.8	94.2	95.6	98.8	134.5
100	88.5	94.0	90.0	93.1	93.2	92.5	94.2	95.3	92.5	97.3	98.5	101.9	104.3	138.2
125	84.4	87.2	90.2	91.9	92.6	93.5	94.6	94.5	93.7	98.0	103.2	105.8	107.3	140.4
160	85.9	83.7	88.7	89.1	88.9	89.2	96.6	91.3	95.0	95.8	104.4	107.1	110.0	141.6
200	87.6	86.6	87.9	89.4	90.8	92.6	95.0	94.4	95.9	101.4	105.6	109.5	112.2	143.7
250	86.5	90.3	90.3	91.1	90.7	91.8	95.5	97.1	101.8	101.9	111.5	113.7	113.9	147.2
315	87.4	90.2	89.2	91.4	93.6	94.9	98.6	97.2	104.2	104.7	112.9	115.6	115.2	148.8
400	87.7	90.8	91.3	92.5	93.4	93.8	106.4	98.6	107.3	106.1	115.7	117.4	115.3	150.8
500	89.2	90.5	91.6	93.3	93.9	95.5	98.2	99.1	108.8	107.4	117.5	117.4	116.8	151.5
630	89.9	92.0	93.0	94.4	94.6	97.0	98.4	100.3	109.5	109.0	118.4	118.4	116.8	152.5
800	93.4	93.0	95.0	95.0	96.6	97.2	99.4	102.3	110.5	110.6	119.7	119.1	117.0	153.5
1000	97.9	98.2	98.0	98.6	98.9	98.5	100.9	102.8	110.0	111.3	119.4	119.6	117.5	153.7
1250	98.5	101.6	101.6	102.5	101.9	102.6	103.2	104.1	109.3	112.1	119.3	119.2	117.2	153.6
1600	100.8	99.7	99.6	100.1	100.7	101.3	103.2	105.0	108.1	112.9	119.3	118.7	116.2	153.4
2000	106.0	103.7	103.1	100.7	99.6	100.9	102.9	105.0	107.8	112.6	118.1	116.7	113.0	152.3
2500	106.0	105.8	106.1	105.6	103.2	101.6	103.0	106.4	108.7	113.3	117.3	114.8	111.1	152.0
3150	102.9	103.4	105.4	105.5	105.5	104.4	104.2	105.5	108.5	111.9	116.9	112.8	109.1	151.3
4000	99.5	100.5	102.3	103.7	104.7	105.4	104.8	105.8	106.5	112.2	114.4	111.2	107.2	150.1
5000	98.5	100.3	101.1	101.8	102.6	104.3	105.9	106.0	106.2	112.6	113.7	110.0	105.7	149.8
6300	96.4	98.0	99.8	101.1	102.5	102.2	104.8	106.4	105.2	110.5	111.9	108.1	104.4	148.5
8000	94.3	97.6	99.2	100.1	100.6	102.2	103.6	106.2	103.4	110.9	110.0	106.0	103.1	148.0
10000	93.3	97.2	98.0	99.8	100.3	101.5	103.3	105.2	102.3	110.4	108.7	105.4	101.4	147.8
12500	91.9	95.0	97.0	99.2	98.4	100.4	101.2	103.3	100.1	108.0	106.6	103.4	100.4	146.6
16000	89.4	94.2	94.9	98.2	98.6	98.4	99.7	101.5	97.8	106.1	105.1	101.7	98.5	146.3
20000	87.5	91.4	93.0	96.8	97.1	97.4	97.7	98.3	94.6	103.4	102.8	98.9	96.8	145.8
25000	84.6	89.3	90.6	94.9	95.9	96.7	96.9	97.1	93.8	102.9	100.6	97.5	92.7	146.9
31500	78.7	84.0	85.3	90.0	90.1	91.9	91.7	92.2	88.8	98.7	96.5	93.3	86.8	145.4
40000	75.6	81.0	85.0	86.6	87.2	88.6	88.9	89.5	87.0	96.7	95.3	90.9	83.3	147.2
50000	71.5	77.2	86.3	83.1	84.3	85.8	85.3	86.5	85.2	95.2	93.5	89.2	80.2	149.7
63000	67.3	75.0	89.5	78.8	80.0	82.2	80.8	83.8	83.2	94.0	92.0	86.4	76.9	153.5
80000	61.3	73.6	91.9	73.2	74.8	77.4	75.5	78.8	78.6	93.1	90.3	83.4	71.5	159.5
OASPL	112.1	112.4	113.2	113.7	113.7	114.2	115.9	117.0	120.1	123.6	129.1	128.6	126.8	165.9
PNL	125.8	126.2	126.9	127.2	127.4	127.6	128.6	129.7	132.4	136.1	140.9	139.2	136.8	
PNLT	125.8	126.9	126.9	128.3	127.4	127.6	130.0	129.7	132.4	136.1	140.9	139.2	136.8	
DBA	183.1	194.3	212.2	195.0	196.4	198.8	197.2	200.2	199.9	213.7	211.0	204.4	193.1	

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH297	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 72.00	PAMB HG = 29.40	RELHUM = 81.8 PCT
WIND DIR =	DEC WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1686.7 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2372.4 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0113	TAPE = X0113F	TEST PT NO = 0113	NC = AE063	CORR FAN SPEED =	RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0113 X01131

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	66.4	71.0	72.6	74.5	75.8	76.3	88.8	80.6	88.6	86.3	94.4	93.9	88.5	169.0
63	67.9	70.7	72.8	75.3	76.3	78.1	80.6	81.1	90.1	87.6	86.2	93.9	88.9	169.7
80	68.5	72.1	74.2	76.3	77.0	79.5	80.7	82.2	90.7	89.2	97.0	94.7	89.8	170.6
100	72.0	73.1	76.2	76.9	79.0	79.7	81.7	84.2	91.7	90.7	88.2	95.4	89.9	171.6
125	76.4	78.2	79.1	80.5	81.1	80.9	83.1	84.6	91.1	91.3	97.9	95.8	90.1	171.8
160	76.7	81.4	82.5	84.2	84.1	84.8	85.3	85.8	90.3	92.0	97.5	95.1	89.5	171.8
200	78.8	79.3	80.4	81.6	82.7	83.5	85.2	86.5	88.9	92.6	97.3	94.3	88.0	171.5
250	83.7	83.0	83.6	82.1	81.3	82.8	84.7	86.3	88.4	92.0	95.8	91.8	84.1	170.4
315	83.2	84.8	86.3	86.7	84.7	83.2	84.5	87.4	89.0	92.3	94.5	89.4	81.4	170.2
400	79.6	82.0	85.3	86.2	86.8	85.7	85.5	86.2	88.4	90.5	93.6	86.7	78.4	169.5
500	75.8	78.7	81.9	84.1	85.6	85.5	85.7	86.3	86.0	90.4	90.7	84.5	75.6	168.2
630	74.3	78.1	80.4	82.0	83.2	85.1	86.6	86.2	85.5	90.4	89.4	82.6	73.0	167.9
800	71.7	75.5	78.7	81.0	82.9	82.8	85.2	86.3	84.1	88.0	87.1	80.0	70.5	166.7
1000	69.1	74.8	77.9	79.8	80.9	82.6	83.9	85.9	82.1	88.1	84.8	77.2	68.1	166.2
1250	67.6	74.0	76.5	79.3	80.4	81.8	83.4	84.7	80.8	87.2	83.0	75.8	65.0	165.9
1600	65.3	71.2	75.1	78.4	78.2	80.4	81.0	82.5	78.2	84.3	80.0	72.5	61.6	164.8
2000	61.9	69.9	72.6	77.2	78.3	78.3	79.4	80.5	75.5	81.7	77.6	69.1	56.6	164.5
2500	58.2	65.8	69.8	75.1	76.3	76.8	76.9	76.6	71.4	77.8	73.5	63.5	50.0	163.9
3150	52.0	61.3	65.5	71.7	73.6	74.8	74.6	73.9	68.7	74.9	68.0	57.1	37.6	165.1
4000	39.8	51.2	56.4	63.5	64.8	67.1	66.4	65.7	59.9	66.0	57.6	44.0	17.2	163.6
5000	26.9	40.7	49.9	54.7	57.0	58.9	58.7	57.6	51.9	56.4	46.6	27.9		165.4
6300	5.0	22.6	39.1	40.4	44.0	46.3	45.0	43.8	38.0	40.7	27.0	2.1		167.8
8000			20.9	16.8	21.6	24.9	22.4	21.8	14.6	14.7				171.7
10000														177.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	89.2	91.0	93.0	94.2	94.6	95.2	96.9	97.4	100.5	102.2	106.8	103.9	98.1	183.8
PNL	93.6	96.7	99.1	101.0	101.8	102.3	103.3	104.1	104.3	107.6	109.4	105.0	97.8	
PNLT	94.7	96.7	99.1	101.5	102.3	102.3	103.3	104.1	104.9	108.2	109.4	106.1	97.8	
DBA	82.8	85.6	88.2	90.2	91.0	91.8	92.8	93.8	92.5	96.9	97.2	91.9	84.5	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN, DUAL CONV/DFSC-1/NAS3-23166														
VEHICLE	= ADH297		TEST DATE = 08-27-82		LOCAT = C41 ANECH CH		CONFIG = 1		MODEL = AX		FLTVEL = 0. FPS			
IAPLHA	= SB59		IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 72.00		PAMB HG = 29.40		RELHUM = 81.8 PCT			
WIND DIR	=		DEG WIND VEL =		MPH		EXT DIST = 2400.0 FT		EXT CONFIG = SL		MIKE HT =		NBFR =	
FNIN1	=		LBS XNL =		RPM		XNH =		RPM		V8 = 1686.7 FPS		AE8 = 3.4 SQ IN	
FNRAMB	=		LBS XNLR =		RPM		XNHR =		RPM		V18 = 2372.4 FPS		AE18 = 18.0 SQ IN	
RUMPT = 82F-ZER-0113 TAPE = X01131 TEST PT NO = 0113 NC = AE063 CORR FAN SPEED = RPM														

ORIGINAL PAGE IS  
OF POOR QUALITY

ORIGINAL PAGE 13  
OF FOUR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0114 X0114C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	83.8	81.3	81.9	82.0	80.1	79.7	85.6	84.8	88.7	84.3	90.2	97.9	130.1
63	89.7	89.7	87.7	86.1	90.6	87.5	86.9	92.3	89.7	94.0	89.9	91.4	97.8	134.4
80	87.7	91.5	88.2	90.3	89.4	91.0	91.4	90.3	87.5	94.8	93.4	95.6	100.0	134.2
100	87.5	92.3	88.0	90.6	91.4	91.0	92.2	93.6	89.5	95.6	95.7	99.4	103.3	136.3
125	84.9	86.9	89.0	90.9	92.1	91.7	92.8	92.2	90.7	95.0	100.2	103.8	106.3	138.5
160	84.2	81.0	86.5	87.1	87.1	86.7	92.6	88.5	92.2	93.5	101.7	104.6	108.0	139.2
200	86.1	84.1	84.1	85.9	86.8	88.4	91.8	91.7	92.1	98.4	101.8	106.3	109.7	140.7
250	82.8	85.3	85.3	86.9	87.0	88.6	91.2	93.4	97.3	98.4	107.3	110.2	110.9	143.5
315	84.6	85.7	85.4	87.4	88.8	89.9	94.8	93.2	99.7	100.7	109.1	112.1	111.7	145.2
400	84.0	85.8	87.0	88.0	89.2	89.5	101.2	94.1	102.5	101.9	111.7	113.2	110.3	146.5
500	85.0	86.0	87.6	89.3	89.7	91.1	93.4	95.1	105.1	103.4	113.8	113.7	108.1	147.3
630	85.2	87.0	88.7	89.9	90.6	92.2	93.9	96.8	106.0	104.5	114.9	113.6	105.3	147.9
800	86.7	87.7	89.3	90.2	91.9	93.2	95.1	98.5	107.3	106.6	115.7	112.1	101.5	148.2
1000	89.9	89.7	91.0	92.1	92.9	94.0	96.4	99.0	106.7	107.3	114.7	111.1	100.8	147.6
1250	90.8	93.3	93.6	94.5	94.4	95.6	97.9	100.1	106.3	108.6	113.8	108.0	99.2	146.9
1600	97.3	96.9	94.6	94.6	95.0	96.3	98.7	101.5	105.6	109.4	112.6	106.2	98.2	146.5
2000	100.3	100.4	100.6	98.2	95.8	96.7	98.9	101.2	105.6	109.6	111.1	104.2	97.7	146.2
2500	99.3	100.8	101.8	102.4	100.9	98.1	99.0	102.6	107.2	110.5	111.3	105.1	97.6	147.2
3150	95.4	96.9	98.9	100.0	101.6	101.6	100.8	102.2	106.8	108.9	111.4	104.8	97.8	146.7
4000	94.0	94.5	96.3	97.7	99.2	101.2	101.5	102.9	106.0	110.4	109.9	103.7	97.5	146.4
5000	93.6	94.8	96.4	96.6	97.1	99.1	102.0	103.3	105.3	110.6	109.7	103.0	96.3	146.4
6300	93.0	94.0	95.1	96.1	97.5	98.2	100.5	104.0	104.4	109.3	107.4	100.9	95.2	145.4
8000	92.8	95.2	95.2	95.9	96.4	98.2	99.1	102.7	102.9	109.2	105.8	98.8	93.7	145.0
10000	93.6	95.8	95.8	96.6	96.6	98.3	99.8	102.0	101.7	108.2	104.5	98.2	92.5	144.8
12500	93.7	95.3	96.4	97.1	95.2	96.7	98.0	100.4	99.0	106.4	102.7	97.0	92.3	144.1
16000	90.8	94.9	95.6	97.6	96.3	96.3	96.6	98.9	97.0	104.5	100.3	95.6	91.1	144.0
20000	89.0	91.6	93.0	96.3	95.9	96.4	96.0	96.3	93.9	102.7	99.4	94.1	90.3	144.2
25000	86.0	89.4	90.2	93.8	94.2	95.8	95.7	95.8	93.0	101.1	85.7	92.3	87.1	145.0
31500	80.1	84.6	85.6	89.2	88.5	91.2	90.9	90.7	88.1	97.6	81.5	87.5	81.3	143.8
40000	76.4	81.5	85.2	86.3	86.6	88.5	87.6	88.7	84.5	95.8	89.2	84.3	77.7	145.5
50000	72.9	77.8	87.7	81.7	82.8	84.6	83.8	84.3	81.3	93.0	85.8	79.5	72.4	146.9
63000	68.0	74.4	89.9	77.2	78.3	81.0	78.9	80.7	78.9	91.8	82.7	74.5	66.9	151.0
80000	61.7	72.7	91.8	71.3	72.0	74.7	72.3	74.5	72.2	88.3	77.3	66.9	57.7	156.5

ORIGINAL PAGE IS  
OF POOR QUALITY

CASPL 107.1 108.3 109.1 109.7 109.7 110.4 112.0 113.8 117.6 120.9 124.4 122.1 119.0 162.0  
PNL 120.2 121.5 122.3 122.9 123.2 123.7 124.9 126.5 130.4 133.7 135.9 131.4 126.8  
PNLT 120.2 122.0 122.3 124.0 123.2 123.7 126.1 126.5 130.4 133.7 135.9 131.4 126.8  
DBA 107.0 107.9 108.7 108.9 109.1 109.6 111.0 113.2 117.5 120.6 123.7 119.9 113.7

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE =	ADH307	TEST DATE =	08-27-82	LOCAT =	C41 ANECH CH	CONFIG =	1	MODEL =	AX	FLTVEL =	400. FPS
IAPLHA =	SB59	IEGA =	NO	PWL AREA =	FULL SPHERE	TAMB F =	76.00	PAMB HG =	29.40	RELHUM =	66.8 PCT
WIND DIR =	DEG	WIND VEL =	MPH	EXT DIST =	40.0 FT	EXT CONFIG =	ARC	MIKE HT =		NBFR =	
FNIN1 =	LBS	XNL =	RPM	XNH =	RPM	V8 =	1696.2 FPS	AE8 =	3.4 SQ IN		
FNRAMB =	LBS	XNLR =	RPM	XNHR =	RPM	V10 =	2378.3 FPS	AE18 =	18.0 SQ IN		
RUNPT =	82F-400-0114	TAPE =	X0114C	TEST PT NO =	0114	NC =	AE063	CORR FAN SPEED =		RPM	

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
3.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0114 X0114F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.7	91.1	89.8	89.9	88.4	88.6	89.3	89.8	96.2	96.4	104.2	107.6	109.1	141.4
315	89.7	91.1	89.8	89.9	90.6	90.1	93.5	90.4	99.3	97.8	107.3	109.5	109.2	143.0
400	92.1	91.9	90.3	90.7	91.0	89.8	99.9	91.3	103.1	100.7	110.9	112.0	109.7	145.7
500	91.6	92.1	92.0	91.4	91.6	91.4	92.7	93.3	104.8	103.0	113.6	114.2	110.4	147.6
630	92.7	92.4	92.5	92.8	92.6	92.6	93.2	95.2	106.0	105.1	114.8	114.0	109.5	148.2
800	92.8	93.4	93.7	93.4	93.9	93.8	94.4	96.7	106.3	106.8	114.9	114.7	111.5	148.8
1000	94.4	94.2	94.3	93.8	94.9	94.6	95.9	97.6	105.7	107.9	113.7	111.4	110.0	147.5
1250	96.9	95.7	95.8	95.6	96.6	96.4	97.5	98.5	105.1	108.8	112.6	109.8	109.2	147.0
1600	97.4	99.1	98.3	97.9	96.9	97.4	98.4	100.0	105.3	109.2	111.5	108.1	109.0	146.7
2000	103.8	102.3	98.7	97.5	98.0	98.0	98.9	100.0	107.2	110.3	111.9	109.2	109.2	147.7
2500	107.1	106.1	105.0	101.4	103.4	99.7	99.3	101.7	107.5	109.5	112.8	109.8	110.2	148.9
3150	104.2	105.2	105.7	105.5	104.8	103.6	101.5	101.9	107.2	111.4	111.5	108.8	110.0	149.2
4000	102.9	103.6	104.5	104.4	102.9	103.7	102.8	103.0	106.3	111.3	111.0	107.7	108.4	148.6
5000	101.6	101.2	102.1	102.4	101.1	102.1	103.5	103.4	105.6	110.1	108.8	105.7	107.5	147.4
6300	101.0	101.5	102.2	101.4	101.6	101.2	102.0	104.1	104.0	110.0	107.0	103.2	105.6	146.9
8000	100.3	100.6	100.8	100.8	100.4	101.2	100.6	102.8	102.9	109.1	105.8	102.8	104.5	146.3
10000	100.0	101.6	100.8	100.5	100.6	101.3	101.3	102.1	100.8	108.0	104.8	102.6	105.3	146.4
12500	100.5	101.9	101.0	100.8	99.2	99.7	99.6	100.7	99.8	107.1	103.5	102.3	105.2	146.5
16000	99.4	100.5	100.9	100.7	100.3	99.3	98.6	99.6	97.6	106.2	103.5	101.6	105.0	147.2
20000	96.7	100.1	99.9	100.9	99.9	99.4	98.2	97.4	97.3	105.2	100.5	100.5	102.6	147.9
25000	94.3	96.2	96.7	99.0	98.8	98.8	98.0	96.9	92.4	101.5	96.0	95.3	96.7	147.7
31500	93.3	95.5	94.8	96.9	93.1	94.2	92.9	91.2	89.1	99.9	93.7	91.7	92.1	147.8
40000	86.6	89.8	89.4	91.5	91.2	91.5	89.1	88.8	86.3	97.5	90.7	87.3	87.2	148.2
50000	82.5	86.3	88.6	88.1	86.9	87.6	85.3	84.4	84.8	97.2	88.4	83.2	82.6	150.5
63000	75.3	79.4	88.4	81.4	82.4	84.0	80.4	80.7	79.6	95.2	84.6	77.1	74.8	153.0
80000	71.0	76.1	90.1	75.8	76.2	77.7	73.7	74.5	69.8	85.4	74.7	67.3	65.0	155.0
GASPL	113.4	113.8	113.6	113.2	112.8	112.5	112.6	113.3	117.5	121.2	123.9	122.7	121.7	162.7
PNL	126.5	126.2	126.2	125.8	125.5	124.8	124.8	125.3	129.9	133.6	135.2	132.9	133.3	
PNLT	128.2	126.2	126.2	125.8	125.5	124.8	125.9	125.3	129.9	133.6	135.2	132.9	133.3	
DBA	192.7	197.4	210.4	197.8	198.2	199.6	195.9	196.4	193.5	208.7	198.2	191.3	189.5	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH307	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.40	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =

FNIN1 =	LBS XNL =	RPM	XNH =	RPM	V8 = 1696.2 FPS	AE8 = 3.4 SQ IN
FNRMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = 2378.3 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-400-0114 TAPE = X0114F TEST PT NO = 0114 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0114 X01141

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.8	72.1	71.6	72.7	73.4	72.3	82.3	73.4	84.4	81.0	89.6	88.5	82.9	163.8
63	70.3	72.3	73.3	73.4	74.0	73.9	75.1	75.3	86.1	83.2	92.3	90.7	83.5	165.8
80	71.3	72.6	73.8	74.7	74.9	75.1	75.6	77.2	87.3	85.3	93.4	90.4	82.5	166.4
100	71.4	73.5	74.9	75.3	76.3	76.2	76.7	78.6	87.5	86.9	93.4	90.9	84.4	167.0
125	72.8	74.2	75.4	75.7	77.2	77.0	78.2	79.4	86.8	87.9	92.2	87.5	82.6	165.7
160	75.1	75.6	76.8	77.3	78.7	78.6	79.6	80.2	86.0	88.6	90.9	85.7	81.5	165.1
200	75.4	78.8	79.1	79.5	78.9	79.5	80.4	81.6	86.1	88.8	89.5	83.6	80.8	164.8
250	81.5	81.7	79.3	78.9	79.7	79.9	80.6	81.3	87.8	89.7	89.5	84.3	80.4	165.8
315	84.3	85.1	85.3	82.5	84.9	81.3	80.8	82.7	87.7	88.5	90.0	84.3	80.6	167.0
400	81.0	83.8	85.6	86.2	86.0	85.0	82.7	82.6	87.1	90.0	88.3	82.7	79.3	167.3
500	79.2	81.8	84.1	84.8	83.8	84.8	83.8	83.4	85.8	89.6	87.2	81.0	76.8	166.8
630	77.4	79.0	81.3	82.5	81.8	82.9	84.1	83.6	84.8	88.0	84.5	78.3	74.7	165.5
800	76.3	79.0	81.2	81.3	82.0	81.8	82.5	84.0	83.0	87.4	82.2	75.1	71.7	165.0
1000	75.1	77.8	79.5	80.5	80.7	81.7	80.9	82.5	81.6	86.3	80.7	74.1	69.5	164.5
1250	74.3	78.4	79.2	80.0	80.7	81.7	81.4	81.6	79.3	84.8	79.2	73.0	68.9	164.5
1600	73.9	78.1	79.1	80.0	79.0	79.8	79.5	79.9	77.9	83.4	77.0	71.4	66.4	164.6
2000	71.9	76.2	78.5	79.6	80.0	79.2	78.3	78.6	75.3	81.9	76.0	69.1	63.2	165.4
2500	67.4	74.5	76.7	79.2	79.1	78.8	77.3	75.7	74.1	79.6	71.2	65.1	55.9	166.0
3150	61.7	68.2	71.6	75.8	76.6	76.9	75.7	73.6	67.3	73.5	63.3	55.0	41.6	165.8
4000	54.4	62.8	65.9	70.3	67.9	69.4	67.6	64.7	60.2	67.2	54.8	42.4	22.4	165.9
5000	37.9	49.5	54.2	59.5	61.0	61.8	58.9	56.8	51.2	57.2	42.0	24.3		166.3
6300	16.1	31.3	41.4	45.4	46.6	48.1	45.0	41.6	37.6	42.7	21.9			168.7
8000		0.1	19.8	19.5	24.0	25.7	21.9	18.7	11.0	15.8				171.2
10000														173.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
DASPL	89.8	91.8	92.9	93.2	93.5	93.3	93.3	93.6	97.8	99.6	101.6	98.1	92.4	180.8
PNL	96.2	98.8	100.6	102.2	102.3	102.3	101.6	101.3	102.8	105.9	104.5	99.3	94.2	
PNLT	97.2	99.6	100.6	102.9	102.3	102.3	102.1	101.3	103.5	106.6	104.5	99.3	94.2	
DBA	85.6	88.4	90.0	90.9	90.9	91.1	90.6	91.0	91.5	95.4	92.3	86.5	82.4	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICL	=	ADH307	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	76.00	PAMB HG	=	29.40
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=	NBFR
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1696.2 FPS	AE8	=	3.4 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2378.3 FPS	AE18	=	18.0 SQ IN
RUNPT = 82F-400-0114    TAPE    = X01141    TEST PT NO = 0114    NC    = AE063    CORR FAN SPEED =    RPM														

ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-2ER-0115 X0115C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.5	83.6	81.6	81.9	83.7	84.6	84.7	85.4	85.6	89.2	95.3	94.5	94.6	130.6
63	89.9	88.5	86.5	87.8	91.1	91.5	93.1	89.3	91.5	94.5	100.4	98.6	99.0	135.8
80	88.4	92.2	88.7	90.5	90.6	92.2	93.1	91.0	89.5	95.8	95.7	96.6	99.8	135.2
100	89.2	95.3	90.8	93.8	93.9	93.8	95.4	96.3	93.0	97.6	98.7	101.7	104.6	138.6
125	85.4	87.7	90.5	92.7	93.1	94.0	94.1	94.7	94.2	97.8	103.2	106.3	108.0	140.8
160	86.2	84.5	89.0	89.6	89.6	90.2	97.4	92.5	95.5	96.3	104.7	107.6	110.5	142.1
200	87.8	87.1	87.9	89.7	91.5	93.1	95.8	95.2	96.6	101.7	106.1	109.8	112.7	144.1
250	87.3	90.8	90.6	91.9	91.5	93.1	96.2	98.1	102.1	102.4	111.8	114.0	114.6	147.6
315	88.1	90.2	90.2	92.1	93.8	95.4	98.8	98.0	104.9	105.0	113.4	115.6	116.0	149.2
400	88.2	91.0	91.5	93.5	93.9	94.0	106.7	99.1	107.5	106.6	115.7	117.7	115.8	151.0
500	90.0	91.0	92.3	94.0	93.9	95.5	98.4	100.1	109.8	108.1	117.5	117.9	116.1	151.8
630	90.7	92.2	94.0	94.6	95.6	97.2	98.6	101.3	110.7	109.0	118.9	118.6	117.0	152.9
800	94.2	94.2	95.2	96.7	96.9	98.2	99.9	103.5	111.7	111.1	120.4	119.1	116.8	153.9
1000	99.7	100.7	99.5	99.4	98.6	99.0	101.6	104.5	111.5	111.8	119.9	120.1	116.8	154.1
1250	100.8	104.1	104.1	104.5	103.2	102.6	103.7	104.9	110.8	112.6	121.0	119.2	116.2	154.5
1600	106.0	103.7	102.6	102.1	102.0	102.3	103.9	105.7	110.3	113.7	121.5	118.0	114.5	154.5
2000	109.0	107.2	106.6	104.5	101.6	101.2	103.9	106.7	109.8	113.6	120.6	115.5	111.7	153.7
2500	107.0	107.3	108.1	108.9	107.2	103.6	103.2	106.9	111.5	114.8	118.8	113.6	109.6	153.3
3150	103.6	104.9	105.7	107.0	108.0	107.4	106.0	107.2	111.5	112.9	117.6	111.8	108.3	152.4
4000	102.0	102.7	103.8	104.9	105.7	106.4	107.0	107.8	110.2	113.9	114.9	110.7	106.7	151.4
5000	101.0	101.8	103.4	103.8	103.8	104.5	106.9	107.8	109.2	113.8	114.7	109.7	105.7	151.0
6300	99.2	100.7	102.3	102.8	104.0	103.7	105.8	108.7	108.7	112.5	113.1	107.9	104.6	150.2
8000	97.3	100.1	101.2	102.6	102.1	103.7	104.9	107.7	106.4	111.7	111.0	105.7	103.6	149.3
10000	96.0	99.5	100.5	102.0	102.3	103.3	104.8	106.4	105.3	111.4	110.4	105.9	102.2	149.3
12500	93.9	96.7	98.8	101.5	100.6	101.9	102.4	105.1	103.1	108.8	107.6	104.1	100.9	148.0
16000	91.4	95.5	95.9	100.0	99.9	100.1	101.2	102.8	101.0	107.3	105.6	101.9	98.5	147.6
20000	89.5	92.9	93.7	97.6	98.4	99.4	100.0	100.3	98.4	105.2	103.8	100.1	96.3	147.4
25000	86.4	90.8	91.8	95.7	96.4	97.5	98.6	99.1	96.3	104.4	100.9	97.7	93.2	148.1
31500	80.4	85.5	86.5	91.5	91.3	92.9	92.9	94.0	92.3	100.5	96.7	92.5	87.1	146.3
40000	76.8	82.2	86.0	87.9	88.7	90.1	90.4	92.0	89.3	99.2	95.3	90.2	83.8	148.8
50000	73.3	79.4	86.8	83.9	85.8	87.6	86.8	88.8	87.7	98.2	93.0	88.2	79.9	151.4
63000	69.0	76.2	89.8	80.6	81.8	84.2	83.1	86.3	86.2	97.8	82.5	85.9	76.4	155.9
80000	62.5	74.6	91.4	74.5	76.1	80.2	78.6	81.8	83.4	98.1	90.3	82.9	69.2	162.3
CASPL	114.4	114.6	115.1	115.7	115.5	115.5	117.0	118.4	122.1	124.6	130.3	128.6	126.6	167.4
PNL	127.4	127.9	128.6	129.3	129.3	129.1	130.0	131.2	134.8	137.3	141.9	138.7	136.1	
PNLT	127.4	128.8	129.6	130.5	129.3	129.1	131.4	131.8	134.8	137.3	141.9	138.7	136.1	
DBA	115.2	115.1	115.5	115.9	115.5	115.1	116.2	118.0	121.9	124.5	130.2	127.7	124.9	

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH298 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 81.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1697.3 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2427.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0115 TAPE = X0115C TEST PT NO = 0115 NC = AE063 CORR FAN SPEED = RPM

ORIGINAL PAGE 13  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0115 X0115F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.5	83.6	81.6	81.9	83.7	84.6	84.7	85.4	85.6	89.2	95.3	94.5	94.6	130.6
63	89.9	88.5	86.5	87.8	91.1	91.5	93.1	89.3	91.5	94.5	100.4	98.6	99.0	135.8
80	88.4	92.2	88.7	90.5	90.6	92.2	93.1	91.0	89.5	95.8	95.7	96.6	99.8	135.2
100	89.2	95.3	90.8	93.8	93.9	93.8	95.4	96.3	93.0	97.6	98.7	101.7	104.6	138.6
125	85.4	87.7	90.5	92.7	93.1	94.0	94.1	94.7	94.2	97.8	103.2	106.3	108.0	140.8
160	86.2	84.5	89.0	89.6	89.6	90.2	97.4	92.5	95.5	96.3	104.7	107.6	110.5	142.1
200	87.8	87.1	87.9	89.7	91.5	93.1	95.8	95.2	96.6	101.7	106.1	109.8	112.7	144.1
250	87.3	90.8	90.6	91.9	91.5	93.1	96.2	98.1	102.1	102.4	111.8	114.0	114.6	147.6
315	88.1	90.2	90.2	92.1	93.8	95.4	98.8	98.0	104.9	105.0	113.4	115.6	116.0	149.2
400	88.2	91.0	91.5	93.5	93.9	94.0	106.7	99.1	107.5	106.6	115.7	117.7	115.8	151.0
500	90.0	91.0	92.3	94.0	93.9	95.5	98.4	100.1	109.8	108.1	117.5	117.9	116.1	151.8
630	90.7	92.2	94.0	94.6	95.6	97.2	98.6	101.3	110.7	109.0	118.9	118.6	117.0	152.9
800	94.2	94.2	95.2	96.7	96.9	98.2	99.9	103.5	111.7	111.1	120.4	119.1	116.8	153.9
1000	99.7	100.7	99.5	99.4	98.6	99.0	101.6	104.5	111.5	111.8	119.9	120.1	116.8	154.1
1250	100.8	104.1	104.1	104.5	103.2	102.6	103.7	104.9	110.8	112.6	121.0	119.2	116.2	154.5
1600	106.0	103.7	102.6	102.1	102.0	102.3	103.9	105.7	110.3	113.7	121.5	118.0	114.5	154.5
2000	109.0	107.2	106.6	104.5	101.6	101.2	103.9	106.7	109.8	113.6	120.6	115.5	111.7	153.7
2500	107.0	107.3	108.1	108.9	107.2	103.6	103.2	106.9	111.5	114.8	118.8	113.6	109.6	153.3
3150	103.6	104.9	105.7	107.0	108.0	107.4	106.0	107.2	111.5	112.9	117.5	111.8	108.3	152.4
4000	102.0	102.7	103.8	104.9	105.7	106.4	107.0	107.8	110.2	113.9	114.9	110.7	106.7	151.4
5000	101.0	101.8	103.4	103.8	103.8	104.5	106.9	107.8	109.2	113.8	114.7	109.7	105.7	151.0
6300	99.2	100.7	102.3	102.8	104.0	103.7	105.8	108.7	108.7	112.5	113.1	107.9	104.6	150.2
8000	97.3	100.1	101.2	102.6	102.1	103.7	104.9	107.7	106.4	111.7	111.0	105.7	103.6	149.3
10000	96.0	99.5	100.5	102.0	102.3	103.3	104.8	106.4	105.3	111.4	110.4	105.9	102.2	149.3
12500	93.9	96.7	98.8	101.5	100.6	101.9	102.4	105.1	103.1	108.8	107.6	104.1	100.9	148.0
16000	91.4	95.5	95.9	100.0	99.9	100.1	101.2	102.8	101.0	107.3	105.6	101.9	98.5	147.6
20000	89.5	92.8	93.7	97.6	98.4	99.4	100.0	100.3	98.4	105.2	103.8	100.1	96.3	147.4
25000	86.4	90.8	91.8	95.7	96.4	97.5	98.6	99.1	96.3	104.4	100.9	97.7	93.2	148.1
31500	80.4	85.5	86.5	91.5	91.3	92.9	92.9	94.0	92.3	100.5	96.7	92.5	87.1	146.8
40000	76.8	82.2	86.0	87.9	88.7	90.1	90.4	92.0	89.3	99.2	95.3	90.2	83.8	148.8
50000	73.5	79.4	86.8	83.9	85.8	87.6	86.8	88.8	87.7	98.2	93.0	88.2	79.9	151.4
63000	69.0	76.2	89.8	80.6	81.8	84.2	83.1	86.3	86.2	97.8	92.5	85.9	76.4	155.9
80000	62.5	74.6	91.4	74.5	76.1	80.2	78.6	81.8	83.4	98.1	90.3	82.9	69.2	162.3
OASPL	114.4	114.6	115.1	115.7	115.5	115.5	117.0	118.4	122.1	124.6	130.3	128.6	126.6	167.4
PNL	127.4	127.9	128.6	129.3	129.3	129.1	130.0	131.2	134.8	137.3	141.9	138.7	136.1	
PNLT	127.4	128.8	129.6	130.5	129.3	129.1	131.4	131.8	134.8	137.3	141.9	138.7	136.1	
DBA	184.6	195.4	211.7	196.3	197.8	201.4	199.9	203.1	204.3	218.5	211.0	203.9	191.5	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0, , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADM298 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 81.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1697.3 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2427.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0115 TAPE = X0115F TEST PT NO = 0115 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0115 X01151

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.9	71.2	72.8	75.5	76.3	76.6	89.1	81.1	88.8	86.8	94.4	94.2	89.0	169.2
63	68.7	71.2	73.6	76.0	76.3	78.1	80.8	82.1	91.1	88.3	96.2	94.4	89.2	170.0
80	69.3	72.4	75.2	76.6	78.0	79.7	81.0	83.2	92.0	89.2	97.5	95.0	90.0	171.0
100	72.7	74.3	76.4	78.7	79.2	80.7	82.2	85.4	92.9	91.2	99.0	95.4	89.6	172.1
125	78.1	80.7	80.6	81.2	80.9	81.4	83.9	86.4	92.6	91.8	98.4	96.3	89.4	172.3
160	79.0	83.9	85.0	86.2	85.3	84.8	85.8	86.6	91.8	92.5	99.3	95.1	88.5	172.6
200	84.0	83.3	83.4	83.6	84.0	84.5	85.9	87.3	91.1	93.3	99.5	93.5	86.2	172.6
250	86.7	86.5	87.1	85.8	83.3	83.1	85.7	88.0	90.4	93.0	98.3	90.6	82.8	171.9
315	84.2	86.3	88.3	89.9	88.7	85.2	84.8	87.9	91.7	93.8	96.0	88.2	79.9	171.4
400	80.3	83.5	85.6	87.7	89.3	88.7	87.2	87.9	91.4	91.5	94.4	85.7	77.6	170.6
500	78.3	80.9	83.4	85.4	86.6	87.5	88.0	88.3	89.8	92.1	91.2	84.0	75.1	169.5
630	76.8	79.6	82.6	84.0	84.5	85.4	87.6	87.9	88.5	91.7	90.4	82.3	73.0	169.1
800	74.5	78.2	81.2	82.7	84.4	84.3	86.2	88.6	87.6	90.0	88.4	79.8	70.8	168.4
1000	72.1	77.3	79.9	82.3	82.4	84.1	85.1	87.4	85.1	88.8	85.8	77.0	68.6	167.4
1250	70.4	76.3	79.0	81.6	82.4	83.6	84.9	86.0	83.8	88.2	84.7	76.3	65.7	167.4
1600	67.3	73.0	76.8	80.7	80.5	81.9	82.3	84.3	81.2	85.0	81.0	73.2	62.1	166.1
2000	63.9	71.1	73.6	78.9	79.6	80.0	80.9	81.7	78.7	83.0	78.1	69.4	56.7	165.7
2500	60.2	67.3	70.5	75.9	77.5	78.8	79.1	78.6	75.2	79.6	74.5	64.8	49.5	165.6
3150	53.7	62.8	66.7	72.4	74.1	75.6	76.4	75.9	71.2	76.4	68.2	57.4	38.1	166.3
4000	41.5	52.7	57.6	65.0	66.1	68.1	67.7	67.4	63.4	67.7	57.9	43.3	17.4	164.9
5000	28.1	41.9	50.9	55.9	58.5	60.4	60.2	60.1	54.2	58.9	46.6	27.2		167.0
6300	7.0	24.9	39.6	41.1	45.5	48.0	46.5	46.0	40.5	43.7	26.5	1.1		169.6
8000			21.2	18.6	23.3	26.9	24.7	24.4	17.7	18.4				174.0
10000														180.4
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	91.6	93.4	95.0	96.3	96.4	96.4	97.9	98.8	102.4	103.2	107.9	103.9	97.8	185.4
PNL	96.1	98.6	100.9	103.1	103.6	103.9	104.7	105.7	107.0	108.9	110.8	104.7		97.0
PNLT	96.1	98.6	101.4	103.7	104.1	103.9	104.7	105.7	107.5	109.4	110.8	105.8		98.0
DBA	84.9	87.7	90.0	92.2	92.8	93.3	94.1	95.5	95.5	98.1	98.5	91.4		83.6

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH298      TEST DATE = 08-27-82      LOCAT = C41 ANECH CH      CONFIG = 1      MODEL = AX      FLTVEL = 0. FPS  
 IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 72.00      PAMB HG = 29.35      RELHUM = 81.8 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1697.3 FPS      AE8 = 3.4 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2427.0 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0115      TAPE = X01151      TEST PT NO = 0115      NC = AE063      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0119 X0119C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.0	83.3	83.1	84.4	85.0	83.3	84.7	85.9	83.8	89.7	84.8	93.5	94.4	130.3
63	90.9	91.2	89.2	91.1	91.9	91.5	93.4	92.8	89.0	96.0	100.4	98.9	99.5	136.5
80	88.7	92.7	89.5	91.0	91.4	92.7	93.1	92.3	89.7	96.8	95.7	97.4	100.0	135.7
100	89.0	95.3	90.5	93.8	94.2	93.8	94.9	96.3	92.8	97.3	98.7	102.2	104.6	138.7
125	85.4	87.4	90.2	93.2	93.8	94.2	95.3	95.7	95.0	98.0	104.2	107.1	108.8	141.5
160	86.7	84.7	89.2	89.8	89.9	90.2	98.4	92.5	96.2	96.5	105.7	108.1	111.0	142.7
200	88.3	87.6	88.6	91.2	91.8	93.9	96.3	95.9	96.6	102.2	107.1	110.8	113.4	144.9
250	87.5	91.3	91.3	92.6	92.2	93.3	96.5	98.4	102.3	102.4	112.5	115.0	115.1	148.3
315	87.9	90.2	90.2	92.1	94.3	95.2	99.3	98.2	104.7	104.2	113.9	116.6	116.2	149.7
400	88.5	91.0	92.0	93.2	94.2	94.5	106.2	99.1	107.8	106.1	116.5	118.2	116.1	151.5
500	90.0	91.8	92.6	94.5	94.4	96.0	98.7	100.1	109.3	107.4	118.3	118.9	116.8	152.5
630	90.9	92.7	94.2	95.1	95.6	97.2	98.9	101.3	110.5	108.8	119.4	119.4	117.8	153.4
800	94.2	94.7	95.5	96.5	97.6	98.5	100.1	103.3	111.5	110.6	120.2	119.6	117.5	154.0
1000	99.7	100.2	99.7	99.1	99.1	99.2	101.4	104.5	111.2	111.3	120.2	119.9	117.5	154.2
1250	101.5	104.3	103.8	104.5	103.4	103.3	103.9	105.1	110.6	112.6	120.8	120.2	117.2	154.8
1600	107.0	104.9	103.3	102.1	101.5	102.3	104.4	106.0	109.3	113.2	121.0	119.2	115.5	154.5
2000	109.5	107.9	107.8	106.0	102.1	101.4	103.9	106.5	109.6	113.1	120.1	117.0	112.0	153.8
2500	107.3	107.8	108.8	108.9	108.2	104.3	104.0	107.6	111.0	114.3	119.8	114.8	110.1	153.8
3150	104.4	105.2	105.9	107.5	108.3	108.6	106.7	107.2	110.5	113.1	118.1	112.8	108.6	152.8
4000	102.3	103.2	104.3	105.2	105.9	107.4	108.0	107.8	110.2	113.2	115.7	111.5	107.5	151.6
5000	101.5	102.8	104.1	104.8	105.1	105.3	107.7	108.3	108.7	113.8	114.9	110.2	106.5	151.3
6300	99.7	102.0	102.8	103.8	104.8	104.7	106.3	109.7	108.2	112.5	112.9	108.6	105.1	150.5
8000	97.5	100.1	101.7	103.4	103.4	104.7	105.4	108.4	106.1	111.7	111.2	106.7	103.6	149.6
10000	96.3	99.5	100.7	102.5	102.8	104.5	105.3	106.9	104.8	111.4	109.4	106.1	102.7	149.3
12500	94.1	97.2	99.0	102.0	101.4	102.9	103.7	105.1	102.6	109.3	107.8	104.4	100.7	148.4
16000	90.9	95.7	96.6	100.0	100.1	100.6	101.7	103.5	100.5	107.1	106.3	101.4	98.7	147.8
20000	89.5	92.6	94.5	97.8	98.9	99.4	100.5	100.8	97.9	105.2	104.8	100.6	96.8	147.8
25000	86.4	90.8	92.6	96.2	96.6	98.2	99.1	99.9	96.1	103.9	101.6	98.0	93.0	148.3
31500	80.2	86.0	87.3	91.5	91.6	93.7	93.7	95.0	92.0	100.0	98.0	93.5	87.1	147.1
40000	76.6	82.7	86.7	88.4	89.2	91.3	91.2	92.8	90.3	98.7	96.0	91.2	83.6	149.1
50000	73.5	79.7	88.3	84.4	86.3	88.3	88.3	89.3	88.4	98.7	93.2	89.0	81.4	152.0
63000	69.5	76.0	90.8	80.6	82.3	84.9	84.4	87.1	85.5	98.8	93.8	87.4	77.6	156.8
80000	63.3	74.9	92.4	76.0	77.6	81.0	79.1	82.5	83.4	98.6	92.3	83.9	71.5	163.0

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CASPL 114.9 115.2 115.7 116.2 116.1 116.3 117.5 118.8 121.7 124.3 130.4 129.3 127.2 167.9  
PNL 127.8 128.4 129.2 129.6 129.7 130.0 130.7 131.4 134.2 137.0 142.4 139.7 136.8  
PNLT 127.8 129.3 129.2 129.6 130.8 130.0 131.9 131.4 134.2 137.0 142.4 139.7 136.8  
DBA 115.7 115.7 116.1 116.3 116.1 116.0 116.8 118.4 121.5 124.2 130.3 128.5 125.6

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH299 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 81.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1688.1 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLK = RPM XNHR = RPM V16 = 2440.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0119 TAPE = X0119C TEST PT NO = 0119 NC = AE063 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0119 X0119F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.0	83.3	83.1	84.4	85.0	83.3	84.7	85.9	83.8	89.7	94.8	93.5	94.4	130.3
63	90.9	91.2	89.2	91.1	91.9	91.5	93.4	92.8	89.0	96.0	100.4	98.9	99.5	136.5
80	88.7	92.7	89.5	91.0	91.4	92.7	93.1	92.3	89.7	96.8	95.7	97.4	100.0	135.7
100	89.0	95.3	90.5	93.8	94.2	93.8	94.9	96.3	92.8	97.3	98.7	102.2	104.6	138.7
125	85.4	87.4	90.2	93.2	93.8	94.2	95.3	95.7	95.0	98.0	104.2	107.1	108.8	141.5
160	86.7	84.7	89.2	89.8	89.9	90.2	98.4	92.5	96.2	96.5	105.7	108.1	111.0	142.7
200	88.3	87.6	88.6	91.2	91.8	93.9	96.3	95.9	96.6	102.2	107.1	110.8	113.4	144.9
250	87.5	91.3	91.3	92.6	92.2	93.3	96.5	98.4	102.3	102.4	112.5	115.0	115.1	148.3
315	87.9	90.2	90.2	92.1	94.3	95.2	99.3	98.2	104.7	104.2	113.9	116.6	116.2	149.7
400	88.5	91.0	92.0	93.2	94.2	94.5	106.2	99.1	107.8	106.1	116.5	118.2	116.1	151.5
500	90.0	91.8	92.6	94.5	94.4	96.0	98.7	100.1	109.3	107.4	118.3	118.9	116.8	152.5
630	90.9	92.7	94.2	95.1	95.6	97.2	98.9	101.3	110.5	108.8	119.4	119.4	117.8	153.4
800	94.2	94.7	95.5	96.5	97.6	98.5	100.1	103.3	111.5	110.6	120.2	119.6	117.5	154.0
1000	99.7	100.2	99.7	99.1	99.1	99.2	101.4	104.5	111.2	111.3	120.2	119.9	117.5	154.2
1250	101.5	104.3	103.8	104.5	103.4	103.3	103.9	105.1	110.6	112.6	120.8	120.2	117.2	154.8
1600	107.0	104.9	103.3	102.1	101.5	102.3	104.4	106.0	109.3	113.2	121.0	119.2	115.5	154.5
2000	109.5	107.9	107.8	106.0	102.1	101.4	103.9	106.5	109.6	113.1	120.1	117.0	112.0	153.8
2500	107.3	107.8	108.8	108.9	108.2	104.3	104.0	107.6	111.0	114.3	119.8	114.8	110.1	153.8
3150	104.4	105.2	105.9	107.5	108.3	108.6	106.7	107.2	110.5	113.1	118.1	112.8	108.6	152.8
4000	102.3	103.2	104.3	105.2	105.9	107.4	108.0	107.8	110.2	113.2	115.7	111.5	107.5	151.6
5000	101.5	102.8	104.1	104.8	105.1	105.3	107.7	108.3	108.7	113.8	114.9	110.2	106.5	151.3
6300	99.7	102.0	102.8	103.8	104.8	104.7	106.3	109.7	108.2	112.5	112.9	108.6	105.1	150.5
8000	97.5	100.1	101.7	103.4	103.4	104.7	105.4	108.4	106.1	111.7	111.2	106.7	103.6	149.6
10000	96.3	99.5	100.7	102.5	102.8	104.5	105.3	106.9	104.8	111.4	109.4	106.1	102.7	149.3
12500	94.1	97.2	99.0	102.0	101.4	102.9	103.7	105.1	102.6	109.3	107.8	104.4	100.7	148.4
16000	90.9	95.7	96.6	100.0	100.1	100.6	101.7	103.5	100.5	107.1	106.3	101.4	98.7	147.8
20000	89.5	92.6	94.5	97.8	98.9	99.4	100.5	100.8	97.9	105.2	104.8	100.6	96.8	147.8
25000	86.4	90.8	92.6	96.2	96.6	98.2	99.1	99.9	96.1	103.9	101.6	98.0	93.0	148.3
31500	80.2	86.0	87.3	91.5	91.6	93.7	93.7	95.0	92.0	100.0	98.0	93.5	87.1	147.1
40000	76.6	82.7	86.7	88.4	89.2	91.3	91.2	92.8	90.3	98.7	96.0	91.2	83.6	149.1
50000	73.5	79.7	88.3	84.4	86.3	88.3	88.3	89.3	88.4	98.7	93.2	89.0	81.4	152.0
63000	69.5	76.0	90.8	80.6	82.3	84.9	84.4	87.1	85.5	98.8	83.8	87.4	77.6	156.8
80000	63.3	74.9	92.4	76.0	77.6	81.0	79.1	82.5	83.4	98.6	82.3	83.9	71.5	163.0
OASPL	114.9	115.2	115.7	116.2	116.1	116.3	117.5	118.8	121.7	124.3	130.4	129.3	127.2	167.9
PNL	127.8	128.4	129.2	129.6	129.7	130.0	130.7	131.4	134.2	137.0	142.4	139.7	136.8	
PNLT	127.8	129.3	129.2	130.9	130.8	130.0	131.9	131.4	134.2	137.0	142.4	139.7	136.8	
DBA	185.2	195.6	212.7	197.4	199.0	202.2	200.6	203.8	204.2	219.1	212.9	204.9	193.3	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH299 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 JAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.35 RELHUM = 81.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1688.1 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2440.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0119 TAPE = X0119F TEST PT NO = 0119 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0119 X01191

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.2	71.2	73.3	75.2	76.6	77.1	88.6	81.1	89.1	86.3	95.2	94.7	89.2	169.6
63	68.7	72.0	73.8	76.5	76.8	78.6	81.1	82.1	90.6	87.6	96.9	95.4	89.9	170.6
80	69.5	72.9	75.5	77.1	78.0	79.7	81.2	83.2	91.7	89.0	98.0	95.7	90.8	171.5
100	72.7	74.8	76.7	78.4	80.0	81.0	82.5	85.2	92.7	90.7	98.7	95.9	90.4	172.1
125	78.1	80.2	80.8	81.0	81.4	81.6	83.6	86.4	92.3	91.3	98.6	96.0	90.1	172.3
160	79.7	84.1	84.8	86.2	85.6	85.6	86.1	86.8	91.5	92.5	99.0	96.1	89.5	172.9
200	85.0	84.6	84.1	83.6	83.5	84.5	86.4	87.5	90.1	92.8	99.0	94.8	87.2	172.7
250	87.2	87.3	88.4	87.3	83.8	83.3	85.7	87.8	90.1	92.5	97.8	92.1	83.1	171.9
315	84.5	86.8	89.1	89.9	89.7	86.0	85.5	88.7	91.2	93.3	97.0	89.4	80.4	172.0
400	81.1	83.8	85.8	88.2	89.5	90.0	88.0	87.9	90.4	91.7	94.9	86.7	77.9	170.9
500	78.5	81.4	83.9	85.6	86.9	88.5	89.0	88.3	89.8	91.4	91.9	84.8	75.8	169.8
630	77.3	80.6	83.4	85.0	85.7	86.1	88.3	88.4	88.0	91.7	90.7	82.8	73.8	169.4
800	75.0	79.5	81.7	83.7	85.2	85.3	86.7	89.6	87.1	90.0	88.1	80.5	71.3	168.6
1000	72.4	77.3	80.4	83.1	83.6	85.1	85.6	88.1	84.9	88.8	86.1	78.0	68.6	167.8
1250	70.6	76.3	79.2	82.1	82.9	84.8	85.4	86.5	83.3	88.2	83.7	76.6	66.2	167.5
1600	67.6	73.5	77.1	81.2	81.2	82.9	83.5	84.3	80.7	85.5	81.3	73.5	61.8	166.5
2000	63.4	71.4	74.3	78.9	79.8	80.5	81.4	82.5	78.2	82.7	78.8	68.9	56.9	165.9
2500	60.2	67.0	71.3	76.1	78.0	78.8	79.6	79.1	74.7	79.6	75.5	65.3	50.0	165.9
3150	53.7	62.8	67.5	72.9	74.4	76.3	76.9	76.6	71.0	75.9	69.0	57.6	37.8	166.5
4000	41.3	53.2	58.4	65.0	66.3	68.9	68.4	68.4	63.1	67.2	59.1	44.3	17.4	165.2
5000	27.9	42.4	51.6	56.4	59.0	61.7	61.0	60.8	55.2	58.4	47.4	28.2		167.3
6300	7.0	25.1	41.1	41.6	46.0	48.8	48.0	46.5	41.2	44.2	26.8	1.9		170.2
8000			22.2	18.6	23.8	27.6	25.9	25.1	16.9	19.4				175.0
10000														181.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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CASPL	92.2	93.9	95.6	96.7	97.0	97.2	98.3	99.1	102.0	102.9	108.0	104.6	98.5	185.9
PNL	96.5	99.1	101.5	103.4	104.1	104.7	105.2	106.1	106.4	108.6	110.8	105.6	97.7	
PNLT	96.5	99.1	101.5	104.1	104.6	104.7	105.8	106.1	107.0	109.1	110.8	106.7	97.7	
DBA	85.4	88.3	90.6	92.7	93.4	94.2	94.8	96.0	95.0	98.0	98.7	92.3	84.3	

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE	=	ADH299	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX	FLTVEL	=	0. FPS		
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	72.00	PAMB HG	=	29.35	RELHUM	=	81.8 PCT		
WIND DIR	=		DEG	WIND VEL	=		MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=	
FNIN1	=		LBS	XNL	=		RPM	XNH	=		RPM	V8	=	1688.1 FPS	AE8	=	3.4 SQ IN		
FNRAMB	=		LBS	XNLR	=		RPM	XNHR	=		RPM	V18	=	2440.9 FPS	AE18	=	18.0 SQ IN		
RUNPT	=	82F-ZER-0119	TAPE	=	X01191	TEST PT NO	=	0119	NC	=	AE063	CORR FAN SPEED	=		RPM				

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0120 X0120C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.8	85.8	81.8	82.4	81.5	83.3	84.7	83.9	85.3	89.7	95.0	91.5	98.9	131.1
63	90.2	91.5	87.7	86.6	89.6	90.0	91.9	90.8	90.2	94.5	100.2	91.9	98.5	135.0
80	89.4	93.5	90.2	91.8	90.6	92.2	92.4	91.3	89.0	96.3	94.9	96.6	101.0	135.5
100	88.0	93.0	88.8	91.6	92.2	92.0	93.9	94.6	90.0	96.6	96.7	100.7	104.6	137.4
125	85.7	87.9	90.0	91.4	92.3	93.0	93.6	93.5	92.0	96.5	101.2	105.1	107.3	139.6
160	85.2	81.7	87.0	87.6	88.1	88.0	94.1	90.0	92.7	94.0	102.9	105.9	109.5	140.5
200	86.6	85.1	84.4	85.7	87.8	89.6	92.3	92.4	93.1	99.4	102.8	107.5	110.9	141.8
250	83.0	85.3	85.8	87.9	88.2	89.8	92.7	94.9	98.1	99.9	108.8	111.7	112.6	145.1
315	85.1	86.2	85.7	88.1	89.1	91.2	95.8	94.5	101.4	101.7	109.9	113.6	113.2	146.4
400	84.7	86.5	87.3	88.7	89.9	90.5	101.9	95.1	104.0	102.9	113.2	114.9	111.6	148.0
500	86.0	86.5	88.1	89.8	90.4	92.1	94.4	96.1	106.3	104.4	115.3	114.9	109.3	148.7
630	85.7	87.7	89.5	90.4	91.6	93.0	94.6	97.3	107.7	105.5	116.7	114.9	106.8	149.5
800	87.7	88.2	90.3	91.7	92.9	94.0	96.1	99.5	108.3	107.6	117.2	113.4	103.3	149.6
1000	93.2	92.2	92.7	94.4	93.9	94.7	97.1	100.0	108.0	108.8	116.9	112.1	102.0	149.3
1250	98.0	98.8	96.1	96.7	95.7	96.6	98.9	101.1	107.8	109.6	116.8	110.2	100.7	149.3
1600	105.5	106.2	102.9	101.1	97.7	97.8	99.9	102.7	107.4	110.9	116.8	109.5	101.5	150.0
2000	106.3	107.9	107.8	107.7	102.6	98.9	100.7	102.7	107.1	111.1	116.1	108.7	101.0	150.4
2500	102.5	104.3	106.3	108.5	108.7	104.6	101.7	104.6	109.5	112.5	115.0	108.3	100.4	150.8
3150	102.1	102.7	102.2	104.0	106.1	107.9	106.0	104.5	108.0	110.9	114.4	107.1	99.6	149.8
4000	100.0	101.2	102.6	102.9	101.9	104.9	106.5	106.1	107.2	112.4	112.2	105.7	98.7	149.1
5000	99.1	100.3	101.2	103.1	103.1	102.6	105.0	107.5	106.8	112.6	111.9	104.2	97.0	149.0
6300	98.0	99.3	100.3	101.1	102.0	102.7	103.8	107.5	105.7	112.3	109.9	102.4	95.9	148.4
8000	96.3	99.2	99.5	101.4	100.9	102.7	103.4	106.2	103.9	112.2	107.8	100.3	94.9	148.0
10000	95.9	98.5	98.8	100.8	100.3	101.6	102.3	105.0	103.4	111.7	106.2	99.7	94.2	147.8
12500	94.0	96.1	97.9	99.9	98.7	100.7	101.3	102.9	101.0	108.7	104.7	98.7	93.3	146.4
16000	91.8	95.4	95.1	98.9	98.3	99.0	100.6	101.7	98.5	107.0	103.0	97.1	91.9	146.3
20000	90.5	92.6	93.5	96.6	96.9	98.2	99.0	99.1	95.7	105.0	101.1	95.4	90.5	146.1
25000	88.0	90.7	91.5	94.8	95.0	96.8	97.5	98.3	94.2	103.6	97.7	93.6	88.1	146.9
31500	81.1	85.3	85.8	90.5	89.5	91.9	91.9	93.2	89.3	99.4	93.8	88.3	81.5	145.3
40000	77.7	82.5	86.0	86.6	86.6	88.7	89.8	90.0	86.3	97.3	91.7	84.5	77.9	146.8
50000	73.7	78.5	87.2	82.7	83.1	86.1	85.5	86.8	82.3	95.0	88.4	80.5	73.2	148.5
63000	69.3	75.4	90.7	77.7	78.6	82.0	80.9	83.5	79.4	93.8	87.2	75.2	67.4	152.7
80000	62.7	74.5	92.5	71.5	72.6	77.4	75.1	78.1	77.0	91.3	83.9	67.4	58.4	158.3

CASPL 112.2 113.6 113.6 114.7 114.1 114.2 115.0 116.4 119.1 122.9 126.8 123.7 120.5 164.1  
PNL 124.9 126.3 126.6 128.2 128.0 128.2 128.4 129.2 131.9 135.6 138.6 133.5 128.4  
PNLT 124.9 126.3 127.7 128.2 129.5 129.3 129.6 129.2 131.9 135.6 138.6 133.5 128.4  
DBA 112.8 114.0 114.0 115.0 114.3 114.0 114.3 115.9 119.0 122.6 126.6 121.7 115.3

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH306 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.35 RELHUM = 66.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1703.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2451.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-100-0120 TAPE = X0120C TEST PT NO = 0120 NC = AE063 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0120 X0120F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.9	91.8	90.8	91.2	89.8	89.8	90.8	91.3	98.0	97.4	105.0	109.1	110.6	142.7
315	90.9	91.8	90.8	91.2	90.9	91.4	94.5	91.7	100.8	98.8	108.8	111.2	110.4	144.5
400	92.8	92.5	90.6	91.5	91.8	90.8	100.6	92.3	104.4	101.8	112.5	113.4	111.1	147.0
500	92.4	92.9	92.2	92.1	92.3	92.4	93.7	94.3	106.6	104.1	115.4	115.6	112.0	149.2
630	93.7	92.9	93.0	93.3	93.6	93.4	94.0	95.7	107.1	106.2	116.3	115.3	111.3	149.6
800	93.3	94.1	94.5	93.9	94.9	94.5	95.4	97.7	107.3	108.1	116.9	115.5	112.7	150.3
1000	95.4	94.7	95.3	95.3	95.6	95.4	96.6	98.4	107.0	108.7	116.6	113.5	111.4	149.6
1250	98.4	96.7	96.4	97.1	97.5	97.4	98.4	99.4	106.8	110.3	116.9	113.1	112.5	150.1
1600	104.7	104.2	100.2	99.6	99.8	98.9	99.6	101.3	106.8	110.8	116.5	112.6	112.3	150.3
2000	113.0	112.4	107.8	104.5	105.4	100.2	100.6	101.5	109.5	112.4	115.6	112.5	112.0	152.0
2500	116.4	116.4	114.5	112.5	111.6	106.2	102.0	103.7	108.6	111.3	115.6	111.8	111.9	154.6
3150	110.1	110.9	111.8	112.8	109.3	109.9	106.7	104.1	108.3	113.2	113.6	110.5	111.0	152.9
4000	109.7	109.3	107.8	108.4	105.6	107.5	107.8	106.2	107.6	113.1	112.9	108.4	108.6	151.4
5000	107.6	107.9	108.3	107.6	107.1	105.6	106.4	107.6	106.6	112.7	110.7	106.4	107.1	150.7
6300	106.5	107.0	107.0	107.9	106.1	105.7	105.2	107.5	104.9	112.7	108.6	104.1	105.7	150.2
8000	105.3	105.8	106.0	105.8	104.9	105.7	104.8	106.2	104.5	112.4	107.2	103.7	105.2	149.8
10000	103.5	105.6	105.0	106.0	104.4	104.6	103.8	105.0	102.7	110.0	106.6	104.0	106.1	149.2
12500	102.7	104.7	104.0	105.1	102.8	103.7	103.0	103.2	100.9	109.1	105.7	103.2	105.5	149.0
16000	100.3	101.7	102.6	103.6	102.3	102.0	102.4	102.1	98.8	107.8	104.6	102.3	104.9	149.0
20000	97.7	100.6	99.4	102.2	100.9	101.2	101.0	99.7	97.9	107.0	101.8	101.0	103.1	149.2
25000	95.8	97.2	97.2	99.3	99.0	99.8	99.6	99.0	93.1	102.6	97.4	94.9	95.1	148.6
31500	92.5	94.5	94.4	96.7	94.1	94.9	93.4	93.3	90.9	101.4	96.2	92.0	92.3	148.5
40000	87.6	90.5	89.6	92.7	91.2	91.7	91.3	90.0	87.3	99.5	93.2	88.3	87.9	149.5
50000	83.8	87.3	89.4	88.4	87.5	89.1	87.0	86.9	85.3	99.3	92.9	84.0	83.1	152.3
63000	77.4	81.4	88.9	83.2	82.7	85.0	82.4	83.5	84.4	98.2	91.1	77.7	75.6	155.8
80000	72.3	77.1	90.9	76.3	76.7	80.4	76.5	78.0	74.6	88.4	81.3	67.8	65.8	156.6
CASPL	120.4	120.5	119.2	118.9	117.4	116.4	115.7	116.0	118.9	123.2	126.5	124.4	123.2	165.2
PNL	133.9	134.0	132.5	132.0	130.4	129.6	128.5	128.1	131.2	135.4	137.8	134.8	134.5	
PNLT	135.6	135.6	134.1	132.0	131.8	130.6	129.6	128.1	131.2	135.4	137.8	134.8	134.5	
DBA	194.1	198.6	211.2	198.6	198.6	201.8	198.4	199.6	197.8	211.6	204.5	191.8	190.1	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH306 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.35 RELHUM = 66.8 PCT  
 WIND D'R = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1703.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2451.9 FPS AE18 = 18.0 SQ IN

RUNIPT = 82F-400-0120 TAPE = X0120F TEST PT NO = 0120 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0120 X01201

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.5	72.8	71.9	73.5	74.2	73.3	83.0	74.4	85.7	82.0	91.2	89.9	84.3	165.2
63	71.1	73.1	73.5	74.1	74.7	74.9	76.1	76.3	87.8	84.3	94.1	92.0	85.1	167.4
80	72.3	73.1	74.3	75.2	75.9	75.9	76.4	77.7	88.3	86.3	94.9	91.7	84.3	167.8
100	71.9	74.2	75.7	75.8	77.3	77.0	77.7	79.6	88.5	88.2	95.5	91.8	85.5	168.4
125	73.8	74.7	76.4	77.2	77.8	77.8	78.8	80.2	88.1	88.7	95.0	89.6	84.0	167.7
160	76.6	76.6	77.4	78.8	79.6	79.6	80.6	81.1	87.8	90.1	95.1	89.0	84.7	168.2
200	82.6	83.9	81.0	81.1	81.8	81.0	81.6	82.8	87.6	90.4	94.5	88.2	84.1	168.4
250	90.6	91.8	88.3	85.9	87.2	82.1	82.4	82.9	90.0	91.8	93.3	87.6	83.2	170.2
315	93.7	95.5	94.8	93.5	93.1	87.8	83.5	84.8	88.9	90.4	92.9	86.4	82.2	172.7
400	86.9	89.5	91.7	93.5	90.5	91.3	87.9	84.8	88.2	91.8	90.3	84.5	80.4	171.0
500	86.0	87.6	87.3	88.8	86.6	88.6	88.7	86.6	87.2	91.3	89.1	81.7	76.9	169.5
630	83.4	85.8	87.6	87.8	87.8	86.4	87.1	87.7	85.8	90.6	86.5	79.0	74.4	168.8
800	81.8	84.5	85.9	87.8	86.5	86.3	85.6	87.4	83.8	90.2	83.8	76.0	71.8	168.3
1000	80.1	83.0	84.7	85.5	85.2	86.2	85.1	85.9	83.2	89.5	82.0	74.9	70.1	167.9
1250	77.8	82.4	83.5	85.5	84.5	84.9	83.9	84.5	81.2	86.9	80.9	74.4	69.6	167.3
1600	76.2	80.9	82.1	84.3	82.6	83.8	82.4	82.4	79.0	85.4	79.1	72.2	66.7	167.1
2000	72.8	77.3	80.3	82.5	82.0	82.0	82.1	81.1	76.4	83.4	77.0	69.7	63.1	167.1
2500	68.4	75.0	76.2	80.5	80.1	80.6	80.1	78.0	74.7	81.4	72.4	65.7	56.4	167.4
3150	63.2	69.2	72.1	76.0	76.8	77.9	77.3	75.7	68.0	74.6	64.7	54.5	39.9	166.7
4000	53.6	61.7	65.5	70.2	68.9	70.1	68.2	66.8	62.0	68.7	57.3	42.7	22.7	166.7
5000	38.9	50.2	54.5	60.8	61.0	62.1	61.1	58.0	52.1	59.2	44.5	25.3		167.7
6300	17.3	32.8	42.2	45.7	47.2	49.6	46.7	44.1	38.1	44.7	26.4			170.5
8000		2.1	20.4	21.2	24.8	27.7	23.9	21.5	15.8	18.9				173.9
10000														174.8
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	97.2	99.1	98.9	99.3	98.3	97.3	96.4	96.2	99.2	101.5	104.3	99.8	94.2	183.3
PNL	102.8	105.3	105.6	106.5	105.6	105.2	104.4	103.7	104.1	107.8	107.0	101.0	95.7	
PNLT	103.6	106.1	106.4	107.0	106.3	105.7	104.4	103.7	104.1	108.4	107.0	101.0	96.8	
DBA	91.9	94.4	95.0	96.1	95.1	94.9	94.1	94.0	92.8	97.6	94.8	88.3	83.7	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH306      TEST DATE = 08-27-82      LOCAT = C41 ANECH CH      CONFIG = 1      MODEL = AX      FLTVEL = 400. FPS  
IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 76.00      PAMB HG = 29.35      RELHUM = 66.8 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1703.7 FPS      AE8 = 3.4 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2451.9 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-400-0120      TAPE = X01201      TEST PT NO = 0120      NC = AE063      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0123 X0123C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.5	87.8	86.1	86.6	86.7	84.8	85.2	86.1	84.8	89.7	94.3	94.0	95.4	131.0
63	90.7	93.2	94.0	92.8	94.6	92.2	92.9	93.5	89.5	94.5	100.2	98.4	99.8	136.9
80	90.2	94.2	90.0	91.3	91.4	93.0	94.9	92.5	90.0	96.8	95.9	98.1	100.8	136.3
100	90.2	96.8	91.8	94.8	95.4	94.8	96.4	97.1	94.0	98.8	100.2	103.4	106.3	140.0
125	86.2	89.2	91.2	93.4	94.6	95.0	95.6	96.2	95.5	99.3	104.9	107.8	109.0	142.1
160	87.2	86.7	90.2	90.3	90.1	91.2	100.9	93.8	96.5	97.5	105.9	108.9	111.8	143.5
200	89.6	89.1	89.4	91.4	92.5	94.6	96.8	95.9	97.6	102.9	106.8	111.3	113.7	145.3
250	88.8	92.1	91.6	93.1	92.2	93.6	96.7	98.6	103.3	103.6	113.3	115.5	115.9	149.0
315	89.1	91.7	91.4	92.6	94.6	96.2	100.1	98.5	105.7	106.2	114.9	117.3	117.7	150.8
400	90.0	92.0	92.5	94.0	94.9	95.3	107.4	99.8	108.5	107.1	117.2	119.2	117.6	152.5
500	91.2	92.5	93.1	95.0	95.2	96.8	99.2	101.3	110.8	108.9	119.8	119.9	118.3	153.8
630	92.2	94.0	95.2	95.9	96.6	98.0	99.1	102.0	111.7	109.8	120.4	120.4	119.0	154.5
800	95.7	95.7	95.5	97.5	97.9	98.2	100.6	104.0	112.5	111.8	121.7	120.6	118.5	155.2
1000	101.2	101.7	101.0	100.6	99.4	100.0	102.6	104.5	111.7	112.8	121.2	121.6	118.8	155.4
1250	105.8	106.8	105.3	107.7	105.4	104.3	104.7	106.1	112.6	114.4	123.3	123.2	120.2	157.3
1600	110.5	107.7	106.3	104.3	103.0	103.1	104.9	106.5	110.3	114.7	122.0	119.7	116.5	155.6
2000	111.8	109.7	110.1	109.5	105.1	103.4	104.7	107.0	110.8	114.9	121.6	117.5	113.7	155.3
2500	107.3	108.0	109.3	110.6	111.4	107.6	105.5	108.1	111.7	115.5	120.0	115.8	111.9	154.7
3150	106.4	106.7	106.4	107.5	109.1	110.9	109.0	108.5	112.3	114.6	118.9	114.1	110.3	154.0
4000	104.3	104.2	106.3	106.7	106.2	107.6	109.8	108.9	111.0	115.2	116.7	112.5	109.0	152.9
5000	103.3	104.0	104.9	106.1	106.3	105.6	108.4	109.5	110.0	114.8	115.9	111.2	108.0	152.3
6300	102.0	102.8	103.8	105.1	105.8	106.2	107.0	110.4	109.4	114.0	114.4	109.7	106.7	151.7
8000	99.8	102.4	102.7	104.7	104.4	105.4	106.6	109.7	106.9	114.2	112.2	108.0	105.4	151.2
10000	98.6	101.2	103.0	104.3	104.3	105.8	106.8	108.0	106.6	113.2	110.9	107.4	105.0	150.9
12500	96.7	98.5	101.4	103.3	103.2	104.4	104.7	106.1	104.0	111.1	109.1	105.4	103.2	149.9
16000	93.9	97.3	98.2	101.8	102.0	102.7	103.5	104.9	101.9	109.2	107.2	103.3	101.1	149.5
20000	92.1	94.5	96.6	99.2	100.0	101.3	101.9	102.5	99.8	107.1	106.0	101.2	99.4	149.3
25000	89.1	93.0	95.5	97.6	98.3	100.2	100.8	100.8	98.8	106.4	104.3	98.9	94.9	150.4
31500	83.1	88.0	92.6	93.5	93.3	95.2	95.4	96.2	95.1	102.3	100.5	94.5	89.0	149.2
40000	80.1	85.6	94.6	90.5	91.3	92.7	92.7	94.4	93.2	101.6	99.1	92.5	86.1	151.9
50000	76.6	83.1	96.5	87.3	88.2	90.0	90.2	91.2	92.1	100.7	98.7	91.9	83.0	155.3
63000	73.2	82.0	99.0	83.8	85.2	87.1	86.3	89.8	89.9	102.1	98.7	89.3	80.5	161.1
80000	69.4	80.3	99.9	78.9	81.2	83.6	81.9	86.2	86.1	100.9	97.0	84.8	75.6	167.0

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OASPL 117.1 116.7 117.3 117.9 117.7 117.7 118.7 119.7 122.9 126.0 131.7 130.6 128.6 170.6  
PNL 129.9 129.4 130.2 131.2 131.4 131.6 132.1 132.3 135.6 138.6 143.2 140.6 138.1  
PNLT 129.9 130.3 130.2 132.9 132.9 132.7 133.4 132.3 135.6 138.6 143.2 140.6 138.1  
DBA 117.9 117.2 117.5 118.1 117.8 117.4 118.0 119.2 122.6 125.7 131.5 129.9 127.2

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH300 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1694.9 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2486.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0123 TAPE = X0123C TEST PT NO = 0123 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0123 X0123F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	84.5	87.8	86.1	86.6	86.7	84.8	85.2	86.1	84.8	89.7	84.3	94.0	95.4	131.0
63	90.7	93.2	94.0	92.8	94.6	92.2	92.9	93.5	89.5	94.5	100.2	98.4	99.8	136.9
80	90.2	94.2	90.0	91.3	91.4	93.0	94.9	92.5	90.0	96.8	95.9	98.1	100.8	136.3
100	90.2	96.8	91.8	94.8	95.4	94.8	96.4	97.1	94.0	98.8	100.2	103.4	106.3	140.0
125	86.2	89.2	91.2	93.4	94.6	95.0	95.6	96.2	95.5	99.3	104.9	107.8	109.0	142.1
160	87.2	86.7	90.2	90.3	90.1	91.2	100.9	93.8	96.5	97.5	105.9	108.9	111.8	143.5
200	89.6	89.1	89.4	91.4	92.5	94.6	96.8	95.9	97.6	102.9	106.8	111.3	113.7	145.3
250	88.8	92.1	91.6	93.1	92.2	93.6	96.7	98.6	103.3	103.6	113.3	115.5	115.9	149.0
315	89.1	91.7	91.4	92.6	94.6	96.2	100.1	98.5	105.7	106.2	114.9	117.3	117.7	150.8
400	90.0	92.0	92.5	94.0	94.9	95.3	107.4	99.8	108.5	107.1	117.2	119.2	117.6	152.5
500	91.2	92.5	93.1	95.0	95.2	96.8	99.2	101.3	110.8	108.9	119.8	119.9	118.3	153.8
630	92.2	94.0	95.2	95.9	96.6	98.0	99.1	102.0	111.7	109.8	120.4	120.4	119.0	154.5
800	95.7	95.7	96.5	97.5	97.9	98.2	100.6	104.0	112.5	111.8	121.7	120.6	118.5	155.2
1000	101.2	101.7	101.0	100.6	99.4	100.0	102.6	104.5	111.7	112.8	121.2	121.6	118.8	155.4
1250	105.8	106.8	105.3	107.7	105.4	104.3	104.7	106.1	112.6	114.4	123.3	123.2	120.2	157.3
1600	110.5	107.7	106.3	104.3	103.0	103.1	104.9	106.5	110.3	114.7	122.0	119.7	116.5	155.6
2000	111.8	109.7	110.1	109.5	105.1	103.4	104.7	107.0	110.8	114.9	121.6	117.5	113.7	155.3
2500	107.3	108.0	109.3	110.6	111.4	107.6	105.5	108.1	111.7	115.5	120.0	115.8	111.9	154.7
3150	106.4	106.7	106.4	107.5	109.1	110.9	109.0	108.5	112.3	114.6	118.9	114.1	110.3	154.0
4000	104.3	104.2	106.3	106.7	106.2	107.6	109.8	108.9	111.0	115.2	116.7	112.5	109.0	152.9
5000	103.3	104.0	104.9	106.1	106.3	105.6	108.4	109.5	110.0	114.8	115.9	111.2	108.0	152.3
6300	102.0	102.8	103.8	105.1	105.8	106.2	107.0	110.4	109.4	114.0	114.4	109.7	106.7	151.7
8000	99.8	102.4	102.7	104.7	104.4	105.4	106.6	109.7	106.9	114.2	112.2	108.0	105.4	151.2
10000	98.6	101.2	103.0	104.3	104.3	105.8	106.8	108.0	106.6	113.2	110.9	107.4	105.0	150.9
12500	96.7	98.5	101.4	103.3	103.2	104.4	104.7	106.1	104.0	111.1	109.1	105.4	103.2	149.9
16000	93.9	97.3	98.2	101.8	102.0	102.7	103.5	104.9	101.9	109.2	107.2	103.3	101.1	149.5
20000	92.1	94.5	96.6	99.2	100.0	101.3	101.9	102.5	99.8	107.1	106.0	101.2	99.4	149.3
25000	89.1	93.0	95.5	97.6	98.3	100.2	100.8	100.8	98.8	106.4	104.3	98.9	94.9	150.4
31500	83.1	88.0	92.6	93.5	93.3	95.2	95.4	96.2	95.1	102.3	100.5	94.5	89.0	149.2
40000	80.1	85.6	94.6	90.5	91.3	92.7	92.7	94.4	93.2	101.6	99.1	92.5	86.1	151.9
50000	76.6	83.1	95.5	87.3	88.2	90.0	90.2	91.2	92.1	100.7	98.7	91.9	83.0	155.3
63000	73.2	82.0	99.0	83.8	85.2	87.1	86.3	89.8	89.9	102.1	98.7	89.3	80.5	161.1
80000	69.4	80.3	99.9	78.9	81.2	83.6	81.9	86.2	86.1	100.9	97.0	84.8	75.6	167.0
GASPL	117.1	116.7	117.3	117.9	117.7	117.7	118.7	119.7	122.9	126.0	131.7	130.6	128.6	170.6
PNL	129.9	129.4	130.2	131.2	131.4	131.6	132.1	132.3	135.6	138.6	143.2	140.6	138.1	
PNLT	129.9	130.3	130.2	132.9	132.9	132.7	133.4	132.3	135.6	138.6	143.2	140.6	138.1	
DBA	190.6	201.0	220.2	200.3	202.4	204.6	203.3	207.2	207.2	221.4	217.6	206.1	197.0	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH300	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 74.00	PAMB HG = 29.35	RELHUM = 74.0 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1694.9 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2486.3 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0123 TAPE = X0123F TEST PT NO = 0123 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0123 X01231

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.7	72.2	73.8	76.0	77.3	77.8	89.8	81.8	89.8	87.3	95.9	95.7	90.7	170.6
63	69.9	72.7	74.3	77.0	77.6	79.3	81.6	83.3	92.1	89.1	98.4	96.4	91.4	172.0
80	70.8	74.1	76.5	77.8	79.0	80.5	81.5	84.0	93.0	90.0	99.0	96.7	92.0	172.6
100	74.2	75.8	77.7	79.4	80.2	80.7	83.0	85.9	93.7	91.9	100.2	96.9	91.4	173.4
125	79.6	81.7	82.1	82.5	81.6	82.4	84.9	86.4	92.8	92.8	99.6	97.8	91.4	173.6
160	84.0	86.6	86.3	89.4	87.6	86.6	86.8	87.8	93.5	94.2	101.5	99.1	92.5	175.5
200	86.5	87.3	87.1	85.9	85.0	85.2	86.9	86.0	91.1	94.3	100.0	95.3	88.3	173.7
250	89.4	89.0	90.6	90.8	86.8	85.3	86.4	88.3	91.4	94.2	99.3	92.6	84.8	173.4
315	84.5	87.0	89.6	91.7	93.0	89.2	87.0	89.2	92.0	94.5	97.3	90.4	82.2	172.9
400	83.1	85.3	86.3	88.2	90.3	92.2	90.2	89.2	92.2	93.2	95.6	88.0	79.6	172.1
500	80.6	82.4	85.9	87.1	87.1	88.7	90.7	89.3	90.5	93.4	92.9	85.8	77.3	171.0
630	79.1	81.9	84.1	86.2	87.0	86.4	89.1	89.7	89.2	92.7	91.7	83.8	75.3	170.5
800	77.2	80.2	82.8	85.0	86.2	86.8	87.4	90.3	88.4	91.5	89.6	81.6	72.8	169.9
1000	74.7	79.6	81.4	84.4	84.6	85.9	86.9	89.4	85.6	91.4	87.1	79.3	70.4	169.3
1250	72.9	78.1	81.5	83.8	84.4	86.1	86.9	87.5	85.1	90.0	85.3	77.0	63.5	169.1
1600	70.1	74.8	79.4	82.5	83.0	84.5	84.6	85.3	82.0	87.3	82.6	74.5	64.4	168.0
2000	66.4	72.9	75.9	80.8	81.7	82.6	83.2	83.8	79.6	84.8	79.7	70.7	59.2	167.6
2500	62.8	68.9	73.4	77.5	79.1	80.7	81.0	80.8	76.6	81.5	76.7	65.9	52.6	167.5
3150	56.4	65.0	70.4	74.3	76.1	78.2	78.6	77.6	73.7	78.3	71.6	58.5	39.8	168.5
4000	44.2	55.3	63.6	67.0	68.1	70.4	70.2	69.7	66.1	69.5	61.6	45.2	19.4	167.3
5000	31.4	45.3	59.5	58.5	61.1	63.0	62.5	62.4	58.0	61.3	50.5	29.5		170.0
6300	10.1	28.6	49.3	44.5	47.9	50.4	49.8	48.4	44.9	46.2	32.2	4.8		173.4
8000		2.6	30.4	21.8	26.7	29.8	27.8	27.8	21.4	22.7	1.7			179.3
10000														185.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
ASPL	94.4	95.5	97.0	98.6	98.6	98.6	99.5	100.0	103.2	104.4	109.3	106.0	100.0	188.6
PNL	98.7	100.6	103.0	105.1	105.9	106.4	106.6	107.2	107.9	110.2	112.1	107.1		99.9
PNLT	98.7	101.1	103.0	106.0	106.6	107.0	107.1	107.2	108.5	110.2	112.8	107.1		99.9
DBA	87.4	89.6	92.0	94.2	94.8	95.6	96.1	97.0	96.2	99.7	99.8	93.6		86.0

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OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL	=	ADH300	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX	FLTVEL	=	0. FPS
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	74.00	PAMB HG	=	29.35	RELHUM	=	74.0 PCT
WIND DIR	=		DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1694.9 FPS	AE8	=	3.4 SQ IN			
FNRMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2486.3 FPS	AE18	=	18.0 SQ IN			

RUNPT = 82F-ZER-0123 TAPE = X01231 TEST PT NO = 0123 NC = AE063 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0125 X0125C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGRFFS

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	85.3	84.8	85.1	84.5	84.3	87.0	85.6	85.3	89.9	94.3	94.2	95.1	130.8
63	92.9	93.2	91.7	91.3	93.4	92.2	94.4	90.3	90.7	96.0	99.9	99.1	99.5	136.8
80	89.7	95.2	90.5	92.0	92.4	93.7	95.6	93.3	91.0	98.1	96.9	99.1	101.5	137.2
100	90.0	96.3	91.5	94.3	94.9	94.8	96.4	97.3	94.0	98.6	100.2	103.2	105.3	139.7
125	86.7	89.4	92.2	93.9	95.3	95.5	96.3	96.5	96.0	99.8	105.7	108.3	109.8	142.8
160	87.7	86.0	90.5	91.1	91.1	91.5	101.4	93.5	97.0	98.0	106.7	108.9	112.0	143.8
200	89.3	90.1	90.1	91.9	92.8	94.9	97.5	96.7	98.1	103.7	107.8	111.8	114.2	145.8
250	88.5	92.3	92.1	93.4	92.7	94.1	97.7	99.1	103.6	104.4	113.5	115.5	115.6	149.0
315	89.6	91.9	91.4	93.1	95.3	96.4	100.3	99.0	106.4	106.2	115.1	117.6	117.5	150.9
400	90.5	92.5	93.5	94.5	95.2	95.5	107.7	100.1	109.8	108.1	118.0	119.2	116.8	152.7
500	92.0	93.0	93.6	95.5	95.9	97.3	100.2	101.3	112.3	109.4	120.0	119.7	117.6	153.9
630	91.9	94.2	95.0	96.4	97.1	98.5	100.1	102.8	113.0	111.0	121.2	120.4	118.5	154.9
800	95.4	96.0	96.7	98.0	98.4	99.7	101.9	104.8	113.7	112.1	122.7	120.6	118.5	155.8
1000	103.4	102.5	102.7	101.9	100.9	101.0	103.1	105.8	113.2	113.8	122.7	121.4	118.3	156.2
1250	110.3	108.8	109.3	108.0	106.7	104.6	105.9	107.1	113.3	115.1	125.3	123.9	121.5	158.8
1600	111.0	108.7	108.3	106.1	104.2	103.6	105.4	107.2	111.3	115.2	122.5	118.5	115.7	155.8
2000	110.8	108.9	110.8	110.5	108.1	104.2	105.7	107.5	111.3	114.9	122.1	116.5	113.5	155.5
2500	107.5	107.8	109.3	111.6	112.4	109.6	106.2	109.1	112.5	116.0	120.0	115.6	112.1	155.1
3150	106.4	106.7	106.7	107.5	108.8	111.1	110.5	108.2	112.5	114.6	118.6	113.3	110.1	154.0
4000	104.0	104.2	106.6	107.2	106.4	107.9	110.3	109.4	111.7	115.2	116.9	111.7	108.5	153.1
5000	103.5	104.3	104.9	106.3	106.8	106.1	108.4	110.5	110.5	115.6	116.2	110.5	107.5	152.7
6300	101.7	102.8	104.3	105.4	106.0	106.0	107.5	110.7	109.7	114.3	114.9	109.2	105.7	152.0
8000	99.8	102.4	103.2	104.9	104.6	105.7	106.6	109.5	107.7	114.2	113.0	107.3	104.7	151.3
10000	98.8	101.2	102.8	104.3	104.0	105.8	106.3	107.7	106.6	113.7	111.9	106.7	103.5	151.1
12500	96.4	98.5	101.1	103.8	103.2	104.2	104.7	106.4	104.5	111.3	109.6	105.2	102.0	150.0
16000	93.7	97.6	98.5	102.0	101.7	102.7	103.5	104.9	101.9	109.7	107.7	102.8	100.1	149.7
20000	92.1	94.7	96.4	99.4	100.3	101.5	102.1	101.7	99.8	107.3	105.5	100.0	97.9	149.2
25000	89.6	92.2	95.5	97.6	98.8	99.9	100.8	101.3	99.3	106.1	104.3	98.1	93.9	150.4
31500	82.9	87.8	92.1	93.5	93.3	95.7	95.6	96.0	94.8	102.8	101.5	93.0	87.5	149.5
40000	79.9	85.4	93.9	90.7	91.3	92.9	93.0	93.9	94.7	101.1	99.6	91.5	84.9	151.8
50000	77.1	82.9	96.7	87.3	89.2	90.5	89.9	91.9	93.4	100.5	98.4	89.6	81.8	155.3
63000	74.2	81.7	99.5	84.0	85.9	87.8	86.3	90.5	91.2	101.6	98.5	88.8	78.3	161.1
80000	70.2	80.6	100.4	79.4	81.9	83.8	81.9	86.2	87.3	100.9	97.5	85.1	73.3	167.3

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OF POOR QUALITY

CASPL 117.6 117.0 118.1 118.5 118.4 118.1 119.2 120.1 123.8 126.3 132.5 130.5 128.6 170.9  
PNL 129.7 129.5 130.6 131.9 132.2 132.0 132.7 132.8 136.1 138.9 143.6 140.5 138.3  
PNLT 129.7 130.5 131.8 133.4 133.9 132.0 133.9 132.8 136.1 138.9 143.6 141.9 139.8  
DBA 118.3 117.4 118.4 118.8 118.6 118.0 118.7 119.7 123.5 126.1 132.4 129.8 127.3

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH301 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
ALPHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.7 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-0125 TAPE = X0125C TEST PT NO = 0125 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0125 X0125F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	85.3	84.8	85.1	84.5	84.3	87.0	85.6	85.3	89.9	94.3	94.2	95.1	130.8
63	92.9	93.2	91.7	91.3	93.4	92.2	94.4	90.3	90.7	96.0	99.9	99.1	99.5	136.8
80	89.7	95.2	90.5	92.0	92.4	93.7	95.6	93.3	91.0	98.1	96.9	99.1	101.5	137.2
100	90.0	96.3	91.5	94.3	94.9	94.8	96.4	97.3	94.0	98.6	100.2	103.2	105.3	139.7
125	86.7	89.4	92.2	93.9	95.3	95.5	96.3	96.5	96.0	99.8	105.7	108.3	109.8	142.8
160	87.7	86.0	90.5	91.1	91.1	91.5	101.4	93.5	97.0	98.0	106.7	108.9	112.0	143.8
200	89.3	90.1	90.1	91.9	92.8	94.9	97.5	96.7	98.1	103.7	107.8	111.8	114.2	145.8
250	88.5	92.3	92.1	93.4	92.7	94.1	97.7	99.1	103.6	104.4	113.5	115.5	115.6	149.0
315	89.6	91.9	91.4	93.1	95.3	96.4	100.3	99.0	106.4	106.2	115.1	117.6	117.5	150.9
400	90.5	92.5	93.5	94.5	95.2	95.5	107.7	100.1	109.8	108.1	118.0	119.2	116.8	152.7
500	92.0	93.0	93.6	95.5	95.9	97.3	100.2	101.3	112.3	109.4	120.0	119.7	117.6	153.9
630	91.9	94.2	95.0	96.4	97.1	98.5	100.1	102.8	113.0	111.0	121.2	120.4	118.5	154.9
800	95.4	96.0	96.7	98.0	98.4	99.7	101.9	104.8	113.7	112.1	122.7	120.6	118.5	155.8
1000	103.4	102.5	102.7	101.9	100.9	101.0	103.1	105.8	113.2	113.8	122.7	121.4	118.3	156.2
1250	110.3	108.8	109.3	108.0	106.7	104.6	105.9	107.1	113.3	115.1	125.3	123.9	121.5	158.8
1600	111.0	108.7	108.3	106.1	104.2	103.6	105.4	107.2	111.3	115.2	122.5	118.5	115.7	155.8
2000	110.8	108.9	110.8	110.5	108.1	104.2	105.7	107.5	111.3	114.9	122.1	116.5	113.5	155.5
2500	107.5	107.8	109.3	111.6	112.4	109.6	106.2	109.1	112.5	116.0	120.0	115.6	112.1	155.1
3150	106.4	106.7	106.7	107.5	108.8	111.1	110.5	108.2	112.5	114.6	118.6	113.3	110.1	154.0
4000	104.0	104.2	106.6	107.2	106.4	107.9	110.3	109.4	111.7	115.2	116.9	111.7	108.5	153.1
5000	103.5	104.3	104.9	106.3	106.8	106.1	108.4	110.5	110.5	115.6	116.2	110.5	107.5	152.7
6300	101.7	102.8	104.3	105.4	106.0	106.0	107.5	110.7	109.7	114.3	114.9	109.2	105.7	152.0
8000	99.8	102.4	103.2	104.9	104.6	105.7	106.6	109.5	107.7	114.2	113.0	107.3	104.7	151.3
10000	98.8	101.2	102.8	104.3	104.0	105.8	106.3	107.7	106.6	113.7	111.9	106.7	103.5	151.1
12500	96.4	98.5	101.1	103.8	103.2	104.2	104.7	106.4	104.5	111.3	109.6	105.2	102.0	150.0
16000	93.7	97.6	98.5	102.0	101.7	102.7	103.5	104.9	101.9	109.7	107.7	102.8	100.1	149.7
20000	92.1	94.7	96.4	99.4	100.3	101.5	102.1	101.7	99.8	107.3	105.5	100.0	97.9	149.2
25000	89.6	92.2	95.5	97.6	98.8	99.9	100.8	101.3	99.3	106.1	104.3	98.1	93.9	150.4
31500	82.9	87.8	92.1	93.5	93.3	95.7	95.6	96.0	94.8	102.8	101.5	93.0	87.5	149.5
40000	79.9	85.4	93.9	90.7	91.3	92.9	93.0	93.9	94.7	101.1	99.6	91.5	84.9	151.8
50000	77.1	82.9	96.7	87.3	89.2	90.5	89.9	91.9	93.4	100.5	98.4	89.6	81.8	155.3
63000	74.2	81.7	99.5	84.0	85.9	87.8	86.3	90.5	91.2	101.6	98.5	88.8	78.3	161.1
80000	70.2	80.6	100.4	79.4	81.9	83.8	81.9	86.2	87.3	100.9	97.5	85.1	73.3	167.3
GASPL	117.6	117.0	118.1	118.5	118.4	118.1	119.2	120.1	123.8	126.3	132.5	130.5	128.6	170.9
PNL	129.7	129.5	130.6	131.9	132.2	132.0	132.7	132.8	136.1	138.9	143.6	140.5	138.3	
PNLT	129.7	130.5	131.8	133.4	133.9	132.0	133.9	132.8	136.1	138.9	143.6	141.9	139.8	
SEA	191.3	201.2	220.7	200.8	203.1	205.0	203.2	207.4	208.4	221.4	218.0	206.1	194.8	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH301 TEST DATE = 06-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.8 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0125 TAPE = X0125F TEST PT NO = 0125 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0125 X01251

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.2	72.7	74.8	76.5	77.6	78.1	90.1	82.1	91.1	88.3	96.7	95.7	90.0	170.9
63	70.7	73.2	74.8	77.5	78.3	79.8	82.6	83.3	93.6	89.6	98.7	96.1	90.7	172.0
80	70.5	74.4	76.2	78.3	79.5	81.0	82.5	84.7	94.2	91.2	99.8	96.7	91.5	173.0
100	74.0	76.1	77.9	79.9	80.7	82.2	84.2	86.7	94.9	92.2	101.2	96.9	91.4	174.0
125	81.9	82.5	83.8	83.7	83.1	83.4	85.4	87.6	94.3	93.8	101.1	97.5	90.9	174.3
160	88.5	88.6	90.3	89.7	88.8	86.8	88.1	88.8	94.3	95.0	103.5	99.8	93.7	176.9
200	89.0	88.3	89.1	87.5	86.2	85.7	87.4	86.8	92.1	94.8	100.5	94.0	87.5	173.9
250	88.4	88.3	91.4	91.8	89.8	86.1	87.4	88.8	91.9	94.2	99.8	91.6	84.6	173.6
315	84.7	86.8	89.6	92.7	94.0	91.2	87.8	90.2	92.7	95.0	97.3	90.2	82.4	173.3
400	83.1	85.3	86.6	88.2	90.0	92.5	91.7	88.9	92.4	93.2	95.4	87.2	79.4	172.1
500	80.3	82.4	86.1	87.6	87.4	89.0	91.2	89.8	91.3	93.4	93.2	85.0	76.8	171.2
630	79.3	82.1	84.1	86.5	87.5	86.9	89.1	90.7	89.7	93.4	92.0	83.1	74.8	170.9
800	77.0	80.2	83.3	85.2	86.4	86.6	87.9	90.6	88.6	91.8	90.1	81.1	71.8	170.1
1000	74.7	79.6	81.9	84.6	84.9	86.1	86.9	89.2	86.4	91.4	87.8	78.5	69.6	169.5
1250	73.1	78.1	81.2	83.8	84.2	86.1	86.4	87.3	85.1	90.5	86.3	77.1	67.0	169.2
1600	69.9	74.8	79.1	83.0	83.0	84.2	84.6	85.6	82.5	87.6	83.1	74.3	63.1	168.2
2000	66.2	73.2	76.2	81.0	81.4	82.6	83.2	83.8	79.6	85.3	80.2	70.2	58.2	167.8
2500	62.8	69.2	73.2	77.7	79.4	80.9	81.2	80.0	76.6	81.7	76.2	64.6	51.1	167.4
3150	56.9	64.2	70.4	74.3	76.6	78.0	78.6	78.1	74.2	78.1	71.6	57.8	38.8	168.5
4000	44.0	55.0	63.1	67.0	68.1	70.9	70.4	69.4	65.9	70.0	62.6	43.7	17.9	167.6
5000	31.2	45.0	58.7	58.8	61.1	63.2	62.8	61.9	59.5	60.8	51.0	28.5		169.9
6300	10.6	28.3	49.5	44.5	48.9	50.9	49.6	49.2	46.2	45.9	32.0	2.5		173.4
8000		2.4	30.9	22.0	27.5	30.5	27.8	28.5	22.6	22.2	1.4			179.2
10000			0.4			0.2								185.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	95.1	95.8	98.0	99.2	99.4	99.2	100.1	100.5	104.1	104.9	110.2	105.9	99.9	189.0
PNL	98.6	100.5	103.6	105.7	106.5	106.8	107.1	107.4	108.5	110.6	112.9	107.1	100.1	
PNLT	98.6	101.0	104.3	106.5	107.4	107.3	107.1	107.4	109.0	110.6	113.5	108.3	100.9	
DBA	87.4	89.7	92.3	94.6	95.2	95.8	96.4	97.3	96.7	100.0	100.3	93.2	86.0	

ORIGINAL PAGE IN  
OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH301 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0125 TAPE = X01251 TEST PT NO = 0125 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0126 X0126C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.5	86.3	83.1	85.1	83.5	83.8	85.2	85.4	84.8	90.2	85.5	92.2	99.9	132.0
63	92.2	91.2	87.7	88.8	89.5	91.0	92.9	92.0	90.7	95.5	100.4	92.6	99.3	135.6
80	90.4	94.2	90.0	91.8	91.6	93.0	93.9	92.5	90.2	97.1	95.7	97.6	102.3	136.5
100	90.0	95.3	90.5	93.3	93.9	94.0	95.4	96.6	92.0	98.3	98.7	102.9	105.8	139.2
125	87.4	88.9	91.2	93.4	94.1	94.5	95.6	95.2	93.5	98.0	103.2	106.8	108.8	141.3
160	86.2	82.7	88.2	89.1	89.4	89.2	94.9	90.8	94.7	96.0	104.2	106.9	110.5	141.6
200	87.6	85.9	86.6	87.9	89.0	90.9	94.3	93.9	94.9	100.7	104.3	108.8	112.2	143.1
250	84.8	87.8	87.3	89.9	89.5	91.6	94.0	95.9	100.1	101.4	110.3	113.2	113.6	146.5
315	86.4	87.4	87.7	89.6	90.6	92.4	97.1	96.0	103.7	103.5	112.6	115.3	114.5	148.3
400	86.5	88.0	89.0	90.5	91.7	92.0	103.7	97.1	106.0	104.6	114.7	116.7	113.3	149.6
500	87.2	88.3	89.8	91.8	91.9	93.8	96.4	97.8	108.8	106.1	117.5	116.9	111.1	150.8
630	87.4	89.0	91.0	92.1	92.6	94.5	96.4	99.5	109.5	107.5	118.4	116.1	108.0	151.1
800	90.2	91.5	92.3	94.0	94.1	95.7	98.4	101.3	110.3	109.6	119.2	114.9	105.0	151.5
1000	97.9	98.2	96.7	98.4	96.4	98.2	99.1	102.3	111.2	111.3	120.7	115.9	104.5	152.9
1250	103.3	103.3	99.6	99.5	97.9	98.3	100.4	102.6	110.1	111.4	119.0	112.2	103.0	151.5
1600	107.3	108.4	108.1	106.6	102.0	99.8	101.7	104.0	109.4	112.2	118.6	110.7	102.7	151.9
2000	105.0	107.2	110.6	113.2	109.1	103.4	102.9	104.7	109.3	112.6	118.1	110.5	102.5	152.8
2500	102.0	102.8	104.3	106.9	109.7	109.3	105.7	106.1	110.2	113.8	116.5	109.1	101.9	151.9
3150	102.4	103.7	103.2	103.0	104.1	108.1	109.3	107.0	110.5	113.1	116.4	108.3	101.1	151.5
4000	99.8	100.7	103.6	104.7	102.9	103.7	107.0	108.6	110.0	113.9	113.4	106.5	99.7	150.5
5000	99.6	101.0	101.4	102.6	103.4	103.6	105.7	109.0	108.8	115.1	112.7	105.2	98.5	150.5
6300	98.7	100.3	101.1	102.1	102.5	103.2	105.0	108.7	108.2	114.3	110.9	103.2	97.4	149.9
8000	97.3	100.2	100.7	101.7	100.9	103.0	104.4	107.5	106.7	113.7	108.8	101.3	96.2	149.3
10000	96.6	99.5	100.6	101.6	101.3	102.8	103.8	106.8	105.7	112.5	107.5	101.5	95.2	149.0
12500	95.2	97.6	98.9	101.4	100.2	101.5	102.5	104.7	103.3	110.9	105.2	99.7	94.0	148.1
16000	92.8	96.7	96.6	99.9	99.8	100.5	101.3	103.4	101.2	108.8	103.8	97.8	92.4	147.8
20000	90.8	93.4	94.3	98.1	98.1	99.4	100.5	100.8	97.9	107.2	102.4	96.6	91.3	147.8
25000	88.0	91.4	92.5	95.5	96.2	97.8	99.2	99.5	96.7	105.6	99.7	94.1	88.3	148.5
31500	82.1	86.3	87.3	91.7	91.3	93.7	93.9	95.5	91.6	101.1	84.8	89.3	82.0	147.0
40000	78.2	82.7	88.2	87.8	88.4	90.2	91.1	92.5	88.8	99.8	93.0	85.8	78.9	148.9
50000	75.0	79.0	88.7	83.9	84.8	87.1	87.8	89.1	86.6	98.5	90.9	81.5	74.4	151.3
63000	74.5	75.9	91.2	78.9	80.3	83.2	82.9	85.5	83.4	97.6	89.2	76.7	68.7	155.3
80000	75.7	74.7	93.5	72.5	74.1	78.9	77.8	81.3	79.5	96.8	84.9	69.9	59.7	161.5
OASPL	113.0	114.4	115.4	116.9	115.6	115.7	116.7	118.1	121.3	124.7	128.9	125.4	121.8	166.4
PNL	125.1	126.6	128.4	130.2	129.2	129.3	130.6	131.1	134.0	137.3	140.4	134.8	129.8	
PNLT	126.2	127.7	131.0	133.1	130.3	130.5	131.7	131.1	134.0	137.3	140.4	134.8	129.8	
DBA	113.5	114.8	115.9	117.3	115.9	115.6	116.2	117.6	121.1	124.3	128.6	123.5	116.8	

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OF POOR QUALITY

## NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH305	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLYVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.35	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1704.6 FPS	AE8 =	3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2518.8 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-0126	TAPE = X0126C	TEST PT NO = 0126	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0126 X0126F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	92.4	94.1	92.1	93.1	91.0	91.6	92.1	92.3	100.2	99.1	107.7	110.9	111.9	144.5
315	92.4	94.1	92.1	93.1	92.4	92.6	95.7	93.2	102.8	100.5	110.3	113.0	112.2	146.2
400	94.1	93.8	92.6	93.0	93.5	92.3	102.4	94.3	107.0	103.7	114.9	113.6	113.1	149.3
500	94.2	94.4	94.0	93.9	93.8	94.1	95.7	96.1	108.2	105.9	117.0	116.7	113.2	150.7
630	94.9	94.7	94.8	95.3	94.6	94.9	95.7	97.8	109.0	108.1	118.2	116.7	113.0	151.4
800	95.1	95.4	96.0	95.6	96.2	96.3	97.6	99.4	110.4	110.4	120.5	119.1	115.1	153.6
1000	97.9	97.9	97.3	97.6	98.0	98.9	98.5	100.5	109.3	110.5	118.8	115.5	113.6	151.8
1250	103.9	103.1	100.5	101.0	99.8	99.1	99.9	100.9	108.8	111.4	118.6	114.2	113.7	151.7
1600	110.5	109.3	104.2	102.6	104.7	100.9	101.4	102.5	109.0	112.2	118.4	114.3	113.8	152.5
2000	117.6	117.1	114.8	111.3	111.6	104.7	102.9	103.5	110.2	113.6	117.2	113.2	113.5	155.4
2500	111.6	113.0	115.4	117.0	112.6	110.9	106.0	105.2	111.0	113.4	117.4	112.9	113.2	155.5
3150	109.6	109.4	109.8	111.1	107.3	110.1	109.9	106.5	110.9	114.5	114.6	111.0	111.8	153.1
4000	109.9	110.3	108.8	107.4	106.6	106.2	108.3	108.6	109.5	115.4	113.4	109.1	109.5	152.4
5000	107.3	107.4	109.3	109.4	107.4	106.6	107.1	109.0	109.0	114.6	111.5	106.8	108.0	151.9
6300	107.0	107.7	107.2	107.4	106.6	106.2	106.5	108.7	107.6	114.2	109.6	105.1	106.9	151.2
8000	106.0	106.8	106.8	106.8	104.9	106.0	105.8	107.5	106.8	113.1	108.4	105.4	106.2	150.7
10000	104.5	106.6	106.3	106.2	105.4	105.8	105.3	106.8	104.7	111.9	106.5	104.2	105.6	150.3
12500	103.5	105.7	105.8	105.8	104.3	104.5	104.0	104.7	103.4	110.6	106.0	103.3	105.3	150.1
16000	101.6	103.2	103.6	105.1	103.8	103.5	103.1	103.7	100.6	109.5	105.2	102.8	105.0	150.3
20000	98.7	101.9	100.9	103.2	102.7	102.4	102.3	101.2	99.9	108.3	102.8	100.2	101.7	150.4
25000	98.9	100.2	99.7	101.9	100.8	100.8	101.0	99.7	95.4	104.5	98.4	95.9	95.6	150.4
31500	95.3	97.5	97.1	98.6	95.9	96.7	95.5	95.6	93.4	103.9	97.4	93.2	93.3	150.7
40000	88.6	91.5	91.1	94.0	93.0	93.2	92.6	92.5	91.5	102.9	95.6	89.3	89.2	152.0
50000	84.3	87.6	91.6	89.6	89.2	90.1	89.2	89.1	89.3	103.0	94.9	85.5	84.4	155.3
63000	78.5	81.8	90.3	84.3	84.4	86.2	84.4	85.5	86.9	103.7	92.1	80.2	76.9	160.2
80000	77.4	77.5	91.3	77.6	78.2	81.9	79.2	81.3	77.1	93.9	82.3	70.3	67.1	159.3
GASPL	121.1	121.2	120.8	120.8	118.7	117.7	117.3	117.6	121.1	124.9	128.4	126.2	124.5	167.5
PNL	133.9	133.8	133.8	134.4	131.6	130.5	130.4	130.0	133.5	137.3	139.4	136.0	135.8	
PNLT	136.1	135.8	136.7	137.3	132.6	131.6	131.5	130.0	133.5	137.3	139.4	137.0	135.8	
DBA	198.2	199.0	211.7	199.9	200.2	203.2	200.9	202.6	200.4	217.0	205.6	194.1	191.4	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH305 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.35 RELHUM = 66.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1704.6 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2518.8 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0126 TAPE = X0126F TEST PT NO = 0126 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0126 X01261

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.8	74.0	73.9	75.0	75.9	74.8	84.8	76.4	88.3	84.0	93.6	92.1	86.3	167.5
63	72.8	74.6	75.3	75.9	76.2	76.7	78.1	78.1	89.4	86.1	95.7	93.2	86.3	168.8
80	73.5	74.9	76.0	77.2	76.9	77.4	78.0	79.8	90.2	88.2	96.8	93.1	86.0	169.5
100	73.6	75.5	77.2	77.5	78.5	78.7	79.9	81.3	91.6	90.5	99.1	95.4	88.0	171.7
125	76.3	77.9	78.4	79.4	80.2	81.3	80.8	82.4	90.4	90.5	97.2	91.6	86.3	169.9
160	82.2	83.0	81.4	82.7	81.9	81.4	82.1	82.6	89.7	91.3	96.8	90.1	85.9	169.9
200	88.5	89.0	85.0	84.2	86.7	83.0	83.3	84.0	89.8	91.8	96.4	89.8	85.5	170.6
250	95.2	96.4	95.4	92.6	93.4	86.6	84.6	84.8	90.8	93.0	94.8	88.4	84.7	173.5
315	88.8	92.0	95.7	98.0	94.1	92.6	87.5	86.3	91.2	92.4	94.6	87.5	83.5	173.6
400	86.4	88.0	89.7	91.8	88.5	91.5	91.2	87.2	90.8	93.1	91.3	84.9	81.1	171.2
500	86.2	88.6	88.3	87.8	87.6	87.3	89.2	89.0	89.1	93.7	89.7	82.3	77.9	170.5
630	83.1	85.3	88.6	89.5	88.1	87.4	87.8	89.2	88.2	92.5	87.3	79.4	75.3	170.0
800	82.3	85.2	86.2	87.3	87.0	86.8	86.9	88.6	86.6	91.7	84.8	77.0	73.1	169.3
1000	80.9	84.0	85.5	86.5	85.2	86.4	86.1	87.2	85.5	90.3	83.3	76.7	71.1	168.8
1250	78.8	83.4	84.7	85.7	85.5	86.2	85.4	86.3	83.2	88.7	80.8	74.6	69.2	168.5
1600	76.9	81.9	83.8	85.0	84.1	84.5	83.8	83.9	81.5	86.8	79.4	72.4	66.5	168.2
2000	74.1	78.8	81.3	84.0	83.5	83.5	82.8	82.7	78.3	85.2	77.7	70.2	63.2	168.4
2500	69.4	76.3	77.7	81.5	81.9	81.8	81.4	79.5	76.7	82.7	73.5	64.9	55.0	168.5
3150	66.2	72.2	74.6	78.6	78.6	78.9	78.7	76.5	70.3	76.4	65.8	55.6	40.5	168.5
4000	56.4	64.8	68.2	72.1	70.7	71.9	70.3	69.1	64.5	71.2	58.5	43.9	23.7	168.9
5000	39.9	51.2	56.0	62.0	62.7	63.6	62.4	60.6	56.4	62.6	47.0	26.3		170.2
6300	17.8	33.0	44.4	46.9	48.9	50.6	48.9	46.3	42.1	48.5	28.4			173.4
8000		2.5	21.8	22.4	26.0	28.9	25.9	23.5	18.3	24.4				178.3
10000														177.4
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
8ASPL	98.2	100.0	100.7	101.5	99.8	98.8	98.1	97.8	101.3	103.2	106.3	101.7	95.8	185.6
PNL	103.7	106.1	107.0	108.8	107.0	106.3	105.9	105.3	106.4	109.6	108.6	102.7	97.0	
PNLT	104.8	107.1	108.5	110.2	107.5	106.8	106.4	105.3	106.9	110.1	108.6	103.2	97.0	
DBA	92.1	94.7	96.1	97.3	96.0	95.9	95.4	95.6	95.0	99.2	96.0	89.3	84.8	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH305	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.35	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1704.6 FPS	AE8 = 3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2518.8 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-400-0126 TAPE = X01261 TEST PT NO = 0126 NC = AEOG3 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0127 X0127C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.5	86.6	86.1	84.6	84.5	84.6	86.0	86.9	84.3	90.2	94.5	93.7	95.6	131.0
63	92.2	95.0	93.5	90.6	91.1	92.0	93.9	93.0	88.2	97.3	100.2	98.6	101.0	137.1
80	90.7	95.2	90.7	92.5	92.4	94.2	94.9	93.5	90.7	98.3	96.9	99.4	101.8	137.3
100	91.5	97.3	92.8	95.6	95.9	95.5	96.9	97.8	94.5	99.6	101.0	103.9	106.3	140.5
125	86.9	89.7	92.2	94.2	95.8	96.0	96.3	97.2	96.2	100.0	105.7	108.6	110.0	143.0
160	87.7	86.0	90.7	91.3	91.1	92.0	97.6	94.0	97.5	98.5	106.9	109.6	112.8	144.1
200	89.8	89.4	90.1	92.2	93.8	95.6	98.0	97.4	98.4	104.4	108.1	112.5	115.4	146.7
250	88.8	93.6	92.1	93.9	93.5	94.8	98.0	100.4	103.6	104.4	113.3	116.5	116.9	149.7
315	90.4	92.4	91.7	93.9	95.3	96.9	100.3	99.2	106.4	107.0	115.4	118.1	118.2	151.4
400	90.5	92.8	93.5	95.2	95.7	96.5	107.7	100.6	109.3	108.3	118.0	119.7	117.6	153.0
500	92.0	93.0	94.1	95.8	96.2	97.5	100.4	101.8	111.6	110.4	120.0	120.2	118.6	154.2
630	92.2	94.5	95.5	96.9	97.1	98.7	100.4	103.0	113.2	111.5	121.4	120.6	118.8	155.1
800	96.2	96.2	97.2	98.0	98.9	100.0	102.1	104.5	114.0	113.3	122.5	120.9	118.8	155.9
1000	104.7	103.7	102.5	101.9	101.6	101.7	103.6	105.5	113.5	114.1	122.7	121.4	118.5	156.2
1250	107.8	108.6	106.6	106.7	105.9	104.6	105.9	107.1	113.1	115.1	123.5	120.9	118.0	156.8
1600	111.5	109.7	109.1	107.3	104.5	104.1	105.9	108.0	112.3	115.4	123.8	118.0	114.7	156.5
2000	111.3	109.9	110.6	111.2	108.3	104.9	106.2	108.2	112.3	115.4	122.6	116.2	112.5	155.9
2500	107.8	108.5	109.3	110.6	111.9	109.8	106.2	109.6	114.2	116.8	120.0	115.1	111.1	155.3
3150	106.9	107.2	107.2	108.0	109.1	111.1	110.5	109.5	113.8	115.4	119.4	113.3	109.1	154.5
4000	104.3	104.7	106.8	107.7	107.2	108.4	110.5	110.6	112.7	115.7	117.4	111.5	107.5	153.6
5000	104.0	104.5	105.4	106.3	106.8	107.3	108.9	111.0	111.5	116.3	117.2	110.5	106.2	153.4
6300	102.0	103.5	104.6	106.1	107.0	107.0	108.5	111.4	110.4	114.8	114.9	108.4	105.7	152.6
8000	99.8	102.9	103.7	105.4	105.1	106.4	107.4	109.7	108.9	114.7	113.2	107.0	104.2	151.8
10000	98.8	102.0	103.0	104.8	105.3	106.0	107.3	107.9	107.9	114.2	111.7	106.4	103.2	151.6
12500	97.2	99.0	101.4	104.0	103.4	104.9	105.7	106.9	105.5	111.3	109.4	104.7	102.0	150.3
16000	94.4	97.8	98.7	102.3	102.5	103.4	104.3	105.6	103.1	109.7	107.4	102.8	99.6	150.0
20000	92.4	94.7	96.6	100.2	101.0	101.8	102.4	103.0	100.5	107.8	105.5	99.5	97.1	149.7
25000	89.8	93.2	95.5	98.4	99.1	100.9	101.1	101.6	100.0	106.6	104.3	97.9	93.1	150.8
31500	83.4	88.5	92.3	94.2	93.8	95.9	96.1	97.0	96.1	103.0	100.8	93.0	86.8	149.8
40000	80.1	85.6	93.9	91.0	91.5	93.2	94.0	94.0	94.9	102.1	100.1	90.7	83.6	152.4
50000	77.3	84.1	97.0	87.5	89.0	90.7	91.2	91.9	92.9	102.0	99.2	89.4	80.0	156.0
63000	73.9	82.5	98.7	84.8	85.7	87.8	87.5	89.8	91.9	102.6	97.7	87.1	77.0	161.3
80000	69.9	81.6	100.6	80.2	81.7	84.3	82.7	86.4	88.3	102.1	95.5	83.6	71.6	167.8
OASPL 117.7 117.6 118.0 118.7 118.5 118.6 119.6 120.8 124.3 126.9 132.5 130.2 128.4 171.2														
PNL 130.0 130.1 130.6 131.7 132.2 132.3 132.9 133.6 137.0 139.4 143.9 140.0 137.3														
PNLT 130.0 130.9 131.7 133.6 132.3 134.1 133.6 137.0 139.4 143.9 140.0 137.3														
DBA 118.4 118.1 118.3 118.9 118.6 118.4 119.0 120.4 124.2 126.6 132.4 129.1 126.4														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICLE = ADH302 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS														
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT														
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =														
FNINT = LBS XNL = RPM XNH = RPM V8 = 1701.2 FPS AE8 = 3.4 SQ IN														
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2562.0 FPS AE18 = 18.0 SQ IN														
RUNPT = 82F-ZER-0127 TAPE = X0127C TEST PT NO = 0127 NC = AE063 CORR FAN SPEED = RPM														

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0127 X0127F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.5	86.6	86.1	84.6	84.5	84.6	86.0	86.9	84.3	90.2	94.5	93.7	95.6	131.0
63	92.2	95.0	93.5	90.6	91.1	92.0	93.9	93.0	88.2	97.3	100.2	98.6	101.0	137.1
80	90.7	95.2	90.7	92.5	92.4	94.2	94.9	93.5	90.7	98.3	96.9	99.4	101.8	137.3
100	91.5	97.3	92.8	95.6	95.9	95.5	96.9	97.8	94.5	99.6	101.0	103.9	106.3	140.5
125	86.9	89.7	92.2	94.2	95.8	96.0	96.3	97.2	96.2	100.0	105.7	108.6	110.0	143.0
160	87.7	86.0	90.7	91.3	91.1	92.0	97.6	94.0	97.5	98.5	106.9	109.6	112.8	144.1
200	89.8	89.4	90.1	92.2	93.8	95.6	98.0	97.4	98.4	104.4	108.1	112.5	115.4	146.7
250	88.8	93.6	92.1	93.9	93.5	94.8	98.0	100.4	103.6	104.4	113.3	116.5	116.9	149.7
315	90.4	92.4	91.7	93.9	95.3	96.9	100.3	99.2	106.4	107.0	115.4	118.1	118.2	151.4
400	90.5	92.8	93.5	95.2	95.7	96.5	107.7	100.6	109.3	108.3	118.0	119.7	117.6	153.0
500	92.0	93.0	94.1	95.8	96.2	97.5	100.4	101.8	111.6	110.4	120.0	120.2	118.6	154.2
630	92.2	94.5	95.5	96.9	97.1	98.7	100.4	103.0	113.2	111.5	121.4	120.6	118.8	155.1
800	96.2	96.2	97.2	98.0	98.9	100.0	102.1	104.5	114.0	113.3	122.5	120.9	118.8	155.9
1000	104.7	103.7	102.5	101.9	101.6	101.7	103.6	105.5	113.5	114.1	122.7	121.4	118.5	156.2
1250	107.8	108.6	106.6	106.7	105.9	104.6	105.9	107.1	113.1	115.1	123.5	120.9	118.0	156.8
1600	111.5	109.7	109.1	107.3	104.5	104.1	105.9	108.0	112.3	115.4	123.8	118.0	114.7	156.5
2000	111.3	109.9	110.6	111.2	108.3	104.9	106.2	108.2	112.3	115.4	122.6	116.2	112.5	155.9
2500	107.8	108.5	109.3	110.6	111.9	109.8	106.2	109.6	114.2	116.8	120.0	115.1	111.1	155.3
3150	106.9	107.2	107.2	108.0	109.1	111.1	110.5	109.5	113.8	115.4	119.4	113.3	109.1	154.5
4000	104.3	104.7	106.8	107.7	107.2	108.4	110.5	110.6	112.7	115.7	117.4	111.5	107.5	153.6
5000	104.0	104.5	105.4	106.3	106.8	107.3	108.9	111.0	111.5	116.3	117.2	110.5	106.2	153.4
6300	102.0	103.5	104.6	106.1	107.0	107.0	108.5	111.4	110.4	114.8	114.9	108.4	105.7	152.5
8000	99.8	102.9	103.7	105.4	105.1	106.4	107.4	109.7	108.9	114.7	113.2	107.0	104.2	151.8
10000	98.8	102.0	103.0	104.8	105.3	106.0	107.3	108.7	107.9	114.2	111.7	106.4	103.2	151.6
12500	97.2	99.0	101.4	104.0	103.4	104.9	105.7	106.9	105.5	111.3	109.4	104.7	102.0	150.3
16000	94.4	97.8	98.7	102.3	102.5	103.4	104.3	105.6	103.1	109.7	107.4	102.8	99.6	150.0
20000	92.4	94.7	96.6	100.2	101.0	101.8	102.4	103.0	100.5	107.8	105.5	99.5	97.1	149.7
25000	89.8	93.2	95.5	98.4	99.1	100.9	101.1	101.6	100.0	106.6	104.3	97.9	93.1	150.8
31500	83.4	88.5	92.3	94.2	93.8	95.9	96.1	97.0	96.1	103.0	100.8	93.0	86.8	149.8
40000	80.1	85.6	93.9	91.0	91.5	93.2	94.0	94.4	94.9	102.1	100.1	90.7	83.6	152.4
50000	77.3	84.1	97.0	87.5	89.0	90.7	91.2	91.9	92.9	102.0	99.2	89.4	80.0	156.0
63000	73.9	82.5	98.7	84.8	85.7	87.8	87.5	89.8	91.9	102.6	97.7	87.1	77.0	161.3
80000	69.9	81.6	100.6	80.2	81.7	84.3	82.7	86.4	88.3	102.1	95.5	83.6	71.6	167.8
GASPL	117.7	117.6	118.0	118.7	118.5	118.6	119.6	120.8	124.3	126.9	132.5	130.2	128.4	171.2
PNL	130.0	130.1	130.6	131.7	132.2	132.3	132.9	133.6	137.0	139.4	143.9	140.0	137.3	
PNLT	130.0	130.9	130.6	131.7	133.6	132.3	134.1	133.6	137.0	139.4	143.9	140.0	137.3	
DBA	191.1	202.2	220.9	201.5	202.9	205.4	204.1	207.4	209.3	222.6	216.2	204.6	193.2	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH302	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 74.00	PAMB HG = 29.35	RELHUM = 74.0 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1701.2 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2562.0 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0127 TAPE = X0127F TEST PT NO = 0127 NC = AE063 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0127 X01271

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	69.2	73.0	74.8	77.2	78.1	79.1	90.1	82.6	90.6	88.6	96.7	96.2	90.7	171.1
63	70.7	73.2	75.3	77.8	78.6	80.1	82.8	83.8	92.8	90.6	98.7	96.6	91.7	172.3
80	70.8	74.6	76.7	78.8	79.5	81.2	82.7	85.0	94.5	91.7	100.0	97.0	91.8	173.3
100	74.7	76.3	78.4	79.9	81.2	82.5	84.5	86.4	95.2	93.4	101.0	97.2	91.6	174.0
125	83.1	83.7	83.6	83.7	83.9	84.1	85.9	87.4	94.6	94.1	101.1	97.5	91.1	174.4
160	86.0	88.4	87.5	88.4	88.1	86.8	88.1	88.8	94.0	95.0	101.8	96.8	90.2	175.0
200	89.5	89.3	89.9	88.9	86.5	86.2	87.9	89.5	93.1	95.1	101.8	93.5	86.5	174.6
250	88.9	89.3	91.1	92.6	90.1	86.8	87.9	89.5	92.9	94.7	100.3	91.3	83.6	174.1
315	85.0	87.5	89.6	91.7	93.5	91.5	87.8	90.7	94.5	95.8	97.3	89.7	81.4	173.4
400	83.6	85.8	87.1	88.7	90.3	92.5	91.7	90.2	93.7	94.0	96.1	87.2	78.4	172.7
500	80.6	82.9	86.4	88.1	88.1	89.5	91.5	91.0	92.3	93.9	93.7	84.8	75.8	171.7
630	79.8	82.4	84.6	86.5	87.5	88.1	89.6	91.2	90.7	94.2	93.0	83.1	73.5	171.5
800	77.2	81.0	83.5	86.0	87.4	87.6	88.9	91.3	89.4	92.3	90.1	80.3	71.8	170.6
1000	74.7	80.1	82.4	85.1	85.4	86.9	87.6	89.4	87.6	91.9	88.1	78.3	69.1	169.9
1250	73.1	78.8	81.5	84.3	85.4	86.4	87.4	88.3	86.3	91.0	86.0	76.8	66.7	169.7
1600	70.6	75.3	79.4	83.2	83.3	85.0	85.6	86.1	83.5	87.6	82.8	73.8	63.1	168.4
2000	66.9	73.4	76.4	81.3	82.2	83.4	84.0	84.6	80.8	85.3	79.9	70.2	57.7	168.1
2500	63.1	69.2	73.4	78.5	80.1	81.2	81.5	81.3	77.3	82.2	76.2	64.1	50.4	167.8
3150	57.1	65.2	70.4	75.1	76.8	79.0	78.8	78.3	74.9	78.6	71.6	57.5	38.0	168.9
4000	44.5	55.8	63.4	67.7	68.6	71.1	70.9	70.4	67.1	70.3	61.9	43.7	17.2	167.9
5000	31.4	45.3	58.7	59.0	61.3	63.5	63.8	62.4	59.8	61.8	51.5	27.7		170.5
6300	10.9	29.6	49.8	44.8	48.6	51.2	50.8	49.2	45.7	47.4	32.7	2.3		174.2
8000		3.1	30.2	22.8	27.2	30.5	29.1	27.8	23.4	23.2	0.7			179.4
10000			0.6			0.7								185.9
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	95.1	96.5	97.9	99.3	99.5	99.6	100.5	101.1	104.6	105.4	110.2	105.5	99.5	189.2
PNL	98.9	101.2	103.6	105.6	106.6	107.1	107.5	108.1	109.4	111.1	113.0	105.9	98.5	
PNLT	98.9	101.8	104.2	105.6	107.4	107.6	107.5	108.1	109.4	111.7	113.8	106.9	98.5	
DBA	87.7	90.3	92.5	94.9	95.6	96.4	97.0	98.0	97.8	100.6	100.5	92.5	84.7	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE	= ADH302	TEST DATE	= 08-27-82	LOCAT	= C41 ANECH CH	CONFIG	= 1	MODEL	= AX	FLTVEL	= 0. FPS	
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 74.00	PAMB HG	= 29.35	RELHUM	= 74.0 PCT	
WIND DIR	=	DEG		WIND VEL	= MPH	EXT DIST	= 2400.0 FT	EXT CONFIG	= SL	MIKE HT	=	
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	= 1701.2 FPS	AE8	= 3.4 SQ IN
FNRMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	= 2562.0 FPS	AE18	= 18.0 SQ IN

RUNPT = 82F-ZER-0127 TAPE = X01271 TEST PT NO = 0127 NC = AEO63 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0129 X0129C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.5	87.3	86.1	85.4	84.2	84.1	85.7	85.9	84.8	91.4	95.0	95.0	96.1	131.6
63	94.4	95.2	91.7	91.3	93.1	92.2	93.4	91.8	89.2	97.5	100.7	99.4	100.3	137.3
80	90.9	95.0	91.2	93.0	93.4	94.7	95.1	93.8	91.5	99.3	97.7	99.6	102.5	137.8
100	91.7	98.5	93.8	96.6	96.9	96.8	98.2	98.8	95.8	100.6	101.5	104.9	107.8	141.6
125	88.2	90.7	93.2	95.4	96.6	97.0	97.8	98.5	97.2	101.0	106.4	109.3	110.8	143.8
160	88.2	87.2	91.2	91.8	91.9	92.0	98.1	95.3	98.5	99.8	107.9	110.4	113.3	144.9
200	91.1	89.6	90.6	93.2	94.3	96.1	98.3	97.7	99.4	104.9	108.8	112.5	115.7	147.0
250	89.8	92.6	93.1	94.6	94.0	95.1	98.2	100.1	104.8	105.6	114.8	117.0	117.1	150.4
315	90.1	91.9	92.4	93.9	95.6	97.2	101.3	100.0	107.9	108.0	116.6	118.3	118.0	151.9
400	91.5	93.3	93.8	95.0	96.2	96.5	107.9	100.8	110.5	108.6	119.0	119.4	117.8	153.4
500	93.0	93.5	94.6	96.0	96.4	97.8	100.9	102.1	112.8	110.1	120.5	120.2	118.3	154.4
630	93.2	94.5	95.5	96.9	98.1	99.2	100.9	103.3	113.7	111.8	121.7	120.9	118.8	155.4
800	96.4	96.2	97.2	98.2	98.9	99.7	102.4	105.0	114.5	113.1	123.2	120.6	118.3	156.2
1000	102.7	102.5	101.0	101.1	101.1	101.2	103.4	105.8	113.7	114.3	123.7	121.4	118.3	156.7
1250	105.8	107.3	105.8	105.7	104.9	104.1	105.4	106.9	113.3	115.1	123.8	120.4	116.5	156.7
1600	110.0	108.7	107.8	106.3	105.2	104.1	105.7	108.0	112.3	116.4	124.5	118.0	114.5	156.9
2000	110.3	108.4	109.6	110.0	107.3	104.2	106.4	108.2	112.6	115.9	123.4	116.0	112.5	156.2
2500	106.8	108.0	108.6	109.9	110.4	109.1	106.7	109.4	113.7	117.0	121.0	114.8	110.6	155.4
3150	105.6	106.2	106.7	107.5	108.6	110.1	110.3	109.2	114.0	115.6	119.4	112.6	108.8	154.4
4000	103.0	104.2	105.8	106.9	106.9	107.4	109.5	110.6	112.7	116.2	117.4	111.0	107.2	153.5
5000	102.3	103.5	104.9	105.8	106.1	106.8	108.7	111.0	111.2	116.6	116.7	109.2	106.2	153.2
6300	100.5	102.5	103.8	104.9	106.3	106.5	108.0	110.7	110.9	115.0	114.6	107.9	105.2	152.2
8000	99.3	101.9	103.5	104.9	104.6	105.9	107.6	109.2	108.4	114.7	113.2	105.5	103.2	151.6
10000	97.8	101.2	103.0	104.8	105.0	106.3	107.3	108.7	107.6	114.2	111.9	105.7	102.5	151.6
12500	95.7	98.5	101.1	103.8	103.7	105.2	105.5	107.1	105.5	111.8	110.6	103.4	100.7	150.6
16000	93.4	97.6	98.5	101.8	102.5	102.7	104.5	104.9	103.4	110.7	108.2	101.5	99.3	150.2
20000	91.4	94.5	96.1	99.9	100.3	101.8	103.1	103.0	100.3	108.3	107.0	99.5	97.1	150.0
25000	88.3	92.5	95.5	98.1	99.1	100.4	101.6	101.8	99.8	106.9	104.5	97.1	92.6	150.8
31500	81.9	87.3	91.6	93.0	93.8	95.9	96.1	97.2	95.8	103.3	101.0	92.5	86.5	149.8
40000	78.9	85.1	93.9	90.2	91.3	92.7	94.0	94.9	95.2	102.1	100.1	90.7	83.1	152.4
50000	75.8	82.9	96.7	87.5	88.5	91.0	90.7	92.2	94.4	102.0	99.9	88.1	80.5	156.2
63000	72.2	81.5	99.2	83.8	85.7	88.1	87.3	90.8	91.7	102.1	100.0	85.8	76.0	161.5
80000	68.4	80.3	99.4	79.4	81.7	84.3	83.4	87.2	88.3	102.6	98.0	84.6	71.6	167.9

ORIGINAL PAGE IS  
OF POOR QUALITY

CASPL 116.4 116.7 117.3 118.0 117.9 118.1 119.5 120.6 124.6 127.2 133.1 130.1 128.2 171.4  
PNL 129.1 129.5 130.0 131.0 131.3 131.7 132.8 133.6 137.3 139.8 144.5 139.8 137.0  
PNLT 129.1 130.4 130.0 131.0 131.3 131.7 133.9 133.6 137.3 139.8 144.5 139.8 137.0  
DBA 117.1 117.1 117.5 118.0 117.9 117.7 118.8 120.2 124.3 127.0 133.0 128.9 126.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH303 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1710.5 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2621.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0129 TAPE = X0129C TEST PT NO = 0129 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0129 X0129F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.5	87.3	86.1	85.4	84.2	84.1	85.7	85.9	84.8	91.4	95.0	95.0	96.1	131.6
63	94.4	95.2	91.7	91.3	93.1	92.2	93.4	91.8	89.2	97.5	100.7	99.4	100.3	137.3
80	90.9	95.0	91.2	93.0	93.4	94.7	95.1	93.8	91.5	99.3	97.7	99.6	102.5	137.8
100	91.7	98.5	93.8	96.6	96.9	96.8	98.2	98.8	95.8	100.6	101.5	104.9	107.8	141.6
125	88.2	90.7	93.2	95.4	96.6	97.0	97.8	98.5	97.2	101.0	106.4	109.3	110.8	143.8
160	88.2	87.2	91.2	91.8	91.9	92.0	98.1	95.3	98.5	99.8	107.9	110.4	113.3	144.9
200	91.1	89.6	90.6	93.2	94.3	96.1	98.3	97.7	99.4	104.9	108.8	112.5	115.7	147.0
250	89.8	92.6	93.1	94.6	94.0	95.1	98.2	100.1	104.8	105.6	114.8	117.0	117.1	150.4
315	90.1	91.9	92.4	93.9	95.6	97.2	101.3	100.0	107.9	108.0	116.6	118.3	118.0	151.9
400	91.5	93.3	93.8	95.0	96.2	96.5	107.9	100.8	110.5	108.6	119.0	119.4	117.8	153.4
500	93.0	93.5	94.6	96.0	96.4	97.8	100.9	102.1	112.8	110.1	120.5	120.2	118.3	154.4
630	93.2	94.5	95.5	96.9	98.1	99.2	100.9	103.3	113.7	111.8	121.7	120.9	118.8	155.4
800	96.4	96.2	97.2	98.2	98.9	99.7	102.4	105.0	114.5	113.1	123.2	120.6	118.3	156.2
1000	102.7	102.5	101.0	101.1	101.1	101.2	103.4	105.8	113.7	114.3	123.7	121.4	118.3	156.7
1250	105.8	107.3	105.8	105.7	104.9	104.1	105.4	106.9	113.3	115.1	123.8	120.4	116.5	156.7
1600	110.0	108.7	107.8	106.3	105.2	104.1	105.7	108.0	112.3	116.4	124.5	118.0	114.5	156.9
2000	110.3	108.4	109.6	110.0	107.3	104.2	106.4	108.2	112.6	115.9	123.4	116.0	112.5	156.2
2500	106.8	108.0	108.6	109.9	110.4	109.1	106.9	109.4	113.7	117.0	121.0	114.8	110.6	155.4
3150	105.6	106.2	106.7	107.5	108.6	110.1	110.3	109.2	114.0	115.6	119.4	112.6	108.8	154.4
4000	103.0	104.2	105.8	106.9	106.9	107.4	109.5	110.6	112.7	116.2	117.4	111.0	107.2	153.5
5000	102.3	103.5	104.9	105.8	106.1	106.8	108.7	111.0	111.2	116.6	116.7	109.2	106.2	153.2
6300	100.5	102.5	103.8	104.9	106.3	106.5	108.0	110.7	110.9	115.0	114.6	107.9	105.2	152.2
8000	99.3	101.9	103.5	104.9	104.6	105.9	107.6	109.2	108.4	114.7	113.2	105.5	103.2	151.6
10000	97.8	101.2	103.0	104.8	105.0	106.3	107.3	108.7	107.6	114.2	111.9	105.7	102.5	151.6
12500	95.7	98.5	101.1	103.8	103.7	105.2	105.5	107.1	105.5	111.8	110.6	103.4	100.7	150.6
16000	93.4	97.6	98.5	101.8	102.5	102.7	104.5	104.9	103.4	110.7	108.2	101.5	99.3	150.2
20000	91.4	94.5	96.1	99.9	100.3	101.8	103.1	103.0	100.3	108.3	107.0	99.5	97.1	150.0
25000	88.3	92.5	95.5	98.1	99.1	100.4	101.6	101.8	99.8	106.9	104.5	97.1	92.6	150.8
31500	81.9	87.3	91.6	93.0	93.8	95.9	96.1	97.2	95.8	103.3	101.0	92.5	86.5	149.8
40000	78.9	85.1	93.9	90.2	91.3	92.7	94.0	94.9	95.2	102.1	100.1	90.7	83.1	152.4
50000	75.8	82.9	96.7	87.5	88.5	91.0	90.7	92.2	94.4	102.0	99.9	88.1	80.5	156.2
63000	72.2	81.5	99.2	83.8	85.7	88.1	87.3	90.8	91.7	102.1	100.0	85.8	76.0	161.5
80000	68.4	80.3	99.4	79.4	81.7	84.3	83.4	87.2	88.3	102.6	98.0	84.6	71.6	167.9
0ASPL	116.4	116.7	117.3	118.0	117.9	118.1	119.5	120.6	124.6	127.2	133.1	130.1	128.2	171.4
PNL	129.1	129.5	130.0	131.0	131.3	131.7	132.8	133.6	137.3	139.8	144.5	139.8	137.0	
PNLT	129.1	130.4	130.0	131.0	131.3	131.7	133.9	133.6	137.3	139.8	144.5	139.8	137.0	
DBA	189.6	200.9	219.8	200.7	202.9	205.4	204.6	208.2	209.3	223.0	218.7	205.2	193.0	

ORIGINAL PAGE 13  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH303	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 74.00	PAMB HG = 29.35	RELHUM = 74.0 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1710.5 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2621.7 FPS	AE18 = 13.0 SQ IN	

RUNPT = 82F-ZER-0129 TAPE = X0129F TEST PT NO = 0129 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0129 X01291

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.2	73.5	75.1	77.0	78.6	79.1	90.3	82.8	91.8	88.8	97.7	95.9	91.0	171.5
63	71.7	73.7	75.8	78.0	78.8	80.3	83.3	84.1	94.1	90.3	99.2	96.6	91.4	172.6
80	71.8	74.6	76.7	78.8	80.5	81.7	83.2	85.2	95.0	92.0	100.3	97.2	91.8	173.5
100	75.0	76.3	78.4	80.2	81.2	82.2	84.7	86.9	95.7	93.2	101.7	96.9	91.1	174.3
125	81.1	82.5	82.1	83.0	83.4	83.6	85.6	87.6	94.8	94.3	102.1	97.5	90.9	174.8
160	84.0	87.1	86.8	87.4	87.1	86.3	87.6	88.6	94.3	95.0	102.0	96.3	88.7	174.8
200	88.0	88.3	88.6	87.9	87.2	86.2	87.7	89.5	93.1	96.1	102.5	93.5	86.3	175.1
250	87.9	87.8	90.1	91.3	89.1	86.1	88.2	89.5	93.1	95.2	101.0	91.1	83.6	174.3
315	84.0	87.0	88.8	90.9	92.0	90.7	88.3	90.4	94.0	96.0	98.3	89.4	80.9	173.5
400	82.4	84.8	86.6	88.2	89.8	91.5	91.5	89.9	93.9	94.2	96.1	86.5	78.1	172.5
500	79.3	82.4	85.4	87.4	87.9	88.5	90.5	91.0	92.3	94.4	93.7	84.3	75.6	171.6
630	78.1	81.4	84.1	86.0	86.8	87.6	89.4	91.2	90.5	94.4	92.5	81.8	73.5	171.3
800	75.7	80.0	82.8	84.7	86.7	87.1	88.4	90.6	89.9	92.5	89.9	79.8	71.0	170.4
1000	74.2	79.1	82.2	84.6	84.9	86.4	87.9	88.9	87.1	91.9	88.1	76.8	68.1	169.7
1250	72.1	78.1	81.5	84.3	85.2	86.6	87.4	88.3	86.1	91.0	86.3	76.1	66.0	169.7
1600	69.1	74.8	79.1	83.0	83.5	85.2	85.3	86.3	83.5	88.1	84.1	72.5	61.9	168.7
2000	65.9	73.2	76.2	80.8	82.2	82.6	84.2	83.8	81.1	86.3	80.7	69.0	57.5	168.3
2500	62.1	68.9	72.9	78.2	79.4	81.2	82.2	81.3	77.1	82.7	77.7	64.1	50.4	168.2
3150	55.6	64.5	70.4	74.8	76.8	78.5	79.3	78.6	74.7	78.8	71.9	56.8	37.5	169.0
4000	43.0	54.5	62.6	66.5	68.6	71.1	70.9	70.7	66.9	70.5	62.1	43.2	16.9	167.9
5000	30.2	44.8	58.7	58.3	61.1	63.0	63.8	62.9	60.0	61.8	51.5	27.7		170.5
6300	9.4	28.3	49.5	44.8	48.1	51.4	50.3	49.4	47.2	47.4	33.5	1.0		174.4
8000		2.1	30.7	21.8	27.2	30.8	28.8	28.8	23.1	22.7	2.9			179.7
10000						0.7								186.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
DASPL	93.7	95.5	97.0	98.5	98.9	99.0	100.3	101.0	104.9	105.7	110.8	105.3	99.2	189.4
PNL	97.8	100.2	102.9	105.0	105.9	106.6	107.6	107.9	109.5	111.4	113.6	105.5	98.1	
PNLT	97.8	100.7	103.4	105.5	105.9	107.1	107.6	107.9	110.2	112.0	114.3	106.7	98.1	
DBA	86.5	89.4	92.0	94.3	95.1	95.9	96.9	97.7	97.8	100.8	100.9	92.0	84.3	

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OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VENTCL = ADH303 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1710.5 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2621.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0129 TAPE = X01291 TEST PT NO = 0129 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0130 X0130C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.3	87.1	83.8	84.9	84.0	85.3	86.0	86.6	85.1	90.9	86.0	92.7	99.1	132.1
63	91.7	90.2	89.5	89.1	91.4	92.2	92.4	90.5	91.0	95.0	100.7	93.6	99.3	135.8
80	91.2	95.7	91.5	93.8	93.1	94.5	95.4	93.8	91.2	98.3	96.9	98.6	102.8	137.6
100	91.0	95.8	91.3	94.1	94.7	94.5	96.7	97.1	92.8	98.3	99.0	102.7	106.3	139.6
125	88.4	89.7	91.7	94.4	95.1	95.2	96.1	96.0	94.2	98.8	103.9	107.8	109.8	142.2
160	87.2	83.5	89.7	90.1	90.1	90.5	96.6	91.8	96.0	97.0	105.7	108.4	112.3	143.2
200	88.1	87.4	86.9	88.2	89.8	92.1	95.3	94.9	95.4	101.9	105.6	110.0	113.4	144.4
250	85.0	88.1	87.8	90.1	90.0	91.8	94.7	96.6	100.6	101.6	111.0	114.0	114.9	147.3
315	86.4	87.7	87.7	89.9	91.6	92.7	97.3	96.2	103.7	104.0	113.1	115.8	115.5	148.9
400	87.0	88.5	89.8	90.7	91.4	92.3	103.4	97.1	106.0	105.1	115.5	117.4	114.3	150.3
500	88.2	88.8	90.3	91.3	92.7	94.0	96.4	98.1	109.1	106.4	118.3	117.7	112.3	151.5
630	87.9	90.2	91.5	92.4	93.6	95.0	96.9	99.5	110.0	108.0	119.2	117.1	110.0	151.9
800	90.4	91.0	92.5	93.5	94.6	96.0	98.4	101.8	111.2	110.1	120.2	115.9	107.3	152.4
1000	97.4	96.5	95.7	96.1	96.6	96.7	99.4	102.8	110.5	111.1	119.9	115.4	105.0	152.2
1250	104.8	105.1	101.6	101.5	98.9	99.3	100.9	103.1	110.6	112.1	120.3	113.7	104.7	152.6
1600	106.8	107.4	108.1	106.1	102.5	100.6	102.2	104.5	110.1	113.4	120.8	113.5	104.7	153.4
2000	105.5	106.7	108.6	109.0	108.1	102.9	103.4	105.2	109.6	113.4	119.6	111.7	104.2	153.0
2500	103.0	104.0	105.6	107.4	109.2	108.8	105.5	106.6	111.2	115.0	118.0	110.8	102.9	152.8
3150	102.1	102.9	103.9	103.7	105.1	107.9	109.3	107.2	111.5	113.9	117.6	108.6	102.6	152.2
4000	100.0	100.7	102.8	103.9	103.7	103.6	107.3	108.6	109.7	114.9	115.2	107.0	100.5	151.2
5000	100.0	101.3	101.9	102.6	103.8	104.3	105.7	109.0	109.7	118.1	114.4	105.5	99.0	151.4
6300	98.7	100.0	101.3	102.4	103.5	103.2	105.0	108.9	108.7	114.8	112.6	103.9	98.2	150.5
8000	97.8	99.6	101.2	102.4	101.9	103.2	104.6	108.0	106.9	114.7	110.2	101.5	97.2	150.1
10000	96.6	100.0	101.0	102.3	102.0	103.0	104.3	106.7	106.1	113.7	109.4	101.7	95.7	149.8
12500	95.7	97.5	99.9	102.0	100.4	102.7	103.0	105.4	103.7	111.8	107.1	100.4	95.0	149.0
16000	92.4	96.6	96.7	100.5	100.5	100.9	101.8	104.1	101.4	109.9	105.9	98.3	93.3	148.7
20000	91.1	93.5	94.6	98.4	98.5	100.0	100.9	101.5	98.5	108.1	104.0	96.7	91.6	148.6
25000	87.8	91.2	92.3	95.6	96.8	98.7	99.6	100.3	97.0	106.6	100.5	94.4	88.6	149.2
31500	81.6	86.3	87.3	91.5	91.0	93.2	93.6	95.2	91.8	102.5	95.3	89.0	82.3	147.6
40000	78.1	83.1	86.1	88.0	88.8	90.4	91.0	92.6	89.2	100.6	93.9	85.5	79.1	149.4
50000	74.3	78.9	87.7	84.0	85.2	87.7	87.4	88.9	85.9	100.0	91.9	81.9	74.0	152.2
63000	69.9	76.0	90.2	80.3	81.2	84.1	83.3	86.0	84.7	98.8	89.7	77.6	68.3	156.1
80000	63.9	74.8	92.4	74.4	75.7	79.8	78.2	80.7	80.8	98.9	89.5	71.6	59.6	162.8

CASPL 113.2 114.3 115.1 115.7 115.7 115.7 116.9 118.4 121.8 125.5 129.9 126.3 123.0 167.3  
PNL 125.4 126.4 127.7 128.4 129.2 129.2 130.7 131.3 134.7 138.2 141.7 135.9 130.9  
PNLT 125.4 127.0 127.7 128.4 129.2 130.3 131.8 131.3 134.7 138.2 141.7 135.9 130.9  
DBA 113.7 114.6 115.5 115.8 115.8 115.5 116.3 117.9 121.6 125.2 129.8 124.4 118.2

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH304 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1700.6 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2600.0 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-400-0130 TAPE = X0130C TEST PT NO = 0130 NC = AE063 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0130 X0130F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	92.7	94.4	92.7	93.4	91.5	91.8	92.8	93.0	100.2	99.6	108.2	111.4	112.9	145.1
315	92.7	94.4	92.7	93.4	93.4	92.9	96.0	93.4	102.8	101.0	111.0	113.7	113.2	146.9
400	94.1	94.0	92.6	93.3	93.2	92.5	102.1	94.3	107.1	103.8	115.4	116.1	114.0	149.8
500	94.2	94.6	94.6	94.0	94.6	94.4	95.7	96.3	108.7	106.4	117.7	117.5	114.9	151.4
630	95.9	95.2	95.3	95.3	95.6	95.4	96.2	97.9	110.2	108.8	119.5	117.9	115.3	152.7
800	95.6	95.6	95.5	95.9	96.7	96.5	97.7	100.1	109.9	110.4	120.0	118.8	115.7	153.3
1000	98.1	97.4	97.6	97.1	98.2	97.4	98.8	101.2	109.9	111.4	120.2	117.1	115.5	153.1
1250	103.6	101.5	99.5	98.8	100.8	100.1	100.5	101.5	109.6	112.8	120.9	117.0	115.7	153.7
1600	112.0	111.1	106.2	104.6	104.4	101.6	101.9	103.0	109.4	113.0	120.1	115.6	115.6	153.9
2000	113.7	113.1	112.5	109.2	110.2	104.2	103.4	104.1	111.2	114.9	118.6	115.0	114.5	154.6
2500	110.6	111.2	112.4	112.0	112.1	110.4	105.8	105.7	112.0	114.2	118.7	113.2	114.8	154.7
3150	110.6	110.6	111.0	111.6	108.3	109.9	109.9	106.7	110.6	115.5	116.3	111.4	112.4	153.9
4000	109.7	109.6	109.5	108.1	107.4	106.2	108.5	108.6	110.5	116.3	115.0	109.1	109.5	153.0
5000	107.6	107.4	108.6	108.6	107.9	107.3	107.1	109.0	109.5	115.1	113.3	107.6	108.9	152.3
6300	107.5	108.0	107.7	107.4	107.6	106.2	106.4	108.9	107.9	115.2	111.0	105.3	107.9	151.8
8000	106.0	106.6	107.0	107.0	105.9	105.2	106.1	107.9	107.2	114.3	110.4	105.6	106.6	151.4
10000	104.9	106.0	106.7	106.9	106.1	106.0	105.7	106.7	105.1	112.8	108.4	104.8	106.5	151.0
12500	103.4	106.1	106.3	106.6	104.5	105.7	104.4	105.4	103.4	111.4	107.8	103.2	105.5	150.8
16000	102.0	103.1	104.6	105.8	104.5	103.9	103.2	104.1	101.0	110.1	106.4	102.4	104.6	150.8
20000	98.4	101.8	101.0	103.9	103.1	103.0	102.4	101.5	100.0	109.1	103.4	100.2	101.4	150.8
25000	99.2	100.4	100.0	102.3	101.4	101.7	101.1	100.4	95.6	105.8	98.9	95.6	95.8	151.0
31500	95.1	97.3	96.9	98.7	95.6	96.2	95.2	95.3	93.7	104.7	98.3	92.9	93.5	151.0
40000	88.1	91.5	91.1	93.7	93.4	93.4	92.4	92.6	90.8	104.4	96.7	89.7	88.8	152.9
50000	84.2	88.0	89.5	89.8	89.8	90.7	88.8	88.9	90.6	104.2	95.5	86.3	84.0	156.1
63000	79.5	82.8	90.2	84.9	85.1	87.1	84.7	86.0	88.2	105.8	96.7	81.8	76.8	162.2
80000	70.2	75.7	89.2	78.4	79.8	82.8	79.6	80.7	78.4	95.9	86.9	72.0	67.0	160.2
CASPL	120.0	120.0	119.9	119.4	118.8	117.8	117.5	117.9	121.6	125.8	129.6	127.0	125.9	168.4
PNL	132.1	132.1	132.2	132.0	131.5	130.4	130.5	130.1	133.9	138.2	140.8	136.7	137.1	
PNLT	132.1	133.3	133.3	132.0	131.5	131.5	131.5	130.1	133.9	138.2	140.8	136.7	137.1	
DBA	193.6	198.1	209.8	200.5	201.5	204.1	201.2	202.2	201.7	219.0	210.0	195.6	191.2	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH304 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.35 RELHUM = 74.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1700.6 FPS AE8 = 3.4 SQ IN  
 FNRRMB = LBS XNLR = RPM XNHR = RPM V18 = 2600.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0130 TAPE = X0130F TEST PT NO = 0130 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0130 X01301

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.8	74.3	73.9	75.3	75.6	75.1	84.5	76.4	88.4	84.0	94.1	92.6	87.2	167.9
63	72.9	74.9	75.9	76.0	77.0	76.9	78.1	78.3	90.0	86.6	96.4	94.0	88.0	169.6
80	74.5	75.4	76.5	77.2	77.9	77.9	78.6	79.9	91.4	89.0	98.1	94.3	88.3	170.8
100	74.1	76.7	77.7	77.8	79.0	79.0	80.0	82.0	91.1	90.5	98.5	95.1	88.6	171.4
125	76.5	77.4	78.7	79.9	80.5	79.8	81.1	83.0	91.0	91.4	98.6	93.2	88.1	171.2
160	81.8	81.3	80.5	80.5	82.9	82.4	82.6	83.2	90.3	92.6	99.1	92.9	88.0	171.8
200	90.0	90.8	87.0	86.2	86.4	83.7	83.9	84.6	90.2	92.7	98.1	91.2	87.4	172.0
250	91.3	92.5	93.0	90.5	92.0	86.1	85.2	85.4	91.8	94.2	96.3	90.1	85.6	172.7
315	87.8	90.2	92.6	93.1	93.6	92.1	87.3	86.7	92.3	93.2	96.0	87.8	85.1	172.9
400	87.4	89.2	90.9	92.3	89.5	91.3	91.2	87.5	90.5	94.1	93.0	85.3	81.7	172.0
500	86.0	87.8	89.1	88.6	88.3	87.3	89.4	89.0	90.0	94.6	91.3	82.3	77.8	171.2
630	83.3	85.3	87.8	88.7	88.5	88.1	87.8	89.1	88.7	93.0	89.1	80.2	76.2	170.4
800	82.8	85.5	86.7	87.3	88.0	86.8	86.9	88.8	86.8	92.6	86.3	77.2	74.0	169.9
1000	80.9	83.7	85.7	86.8	86.2	86.6	86.3	87.7	86.0	91.5	85.2	76.9	71.6	169.5
1250	79.3	82.9	85.2	86.5	86.2	86.4	85.9	86.3	83.6	89.6	82.8	75.3	70.0	169.1
1600	76.9	82.3	84.3	85.8	84.3	85.7	84.3	84.6	81.4	87.7	81.3	72.3	66.7	168.9
2000	74.5	78.8	82.2	84.7	84.2	83.9	82.9	83.1	78.6	85.7	78.9	69.8	62.8	168.9
2500	69.1	76.2	77.8	82.2	82.2	82.4	81.5	79.8	76.8	83.5	74.1	64.9	54.7	169.0
3150	66.6	72.3	74.9	79.0	79.2	79.7	78.9	77.2	70.5	77.8	66.2	55.3	40.7	169.1
4000	56.2	64.6	68.0	72.1	70.4	71.4	70.0	68.7	64.8	72.0	59.4	43.6	23.8	169.1
5000	39.5	51.2	56.0	61.8	63.2	63.7	62.2	60.7	55.7	64.1	48.0	26.7		171.0
6300	17.8	33.4	42.3	47.1	49.5	51.2	48.5	46.2	43.4	49.7	29.0			174.2
8000														180.3
10000		3.4	21.6	22.9	26.7	29.8	26.3	24.0	19.6	26.4				178.4
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
8ASPL	96.9	98.6	99.6	99.8	99.7	98.8	99.3	98.1	101.8	104.0	107.5	102.6	97.3	186.5
PNL	102.1	104.4	105.9	107.0	107.0	106.6	106.0	105.7	106.8	110.5	110.0	103.1	98.3	
PNLT	102.1	105.1	106.4	107.5	107.5	107.2	106.0	105.7	107.5	110.5	110.0	103.1	98.3	
DBA	91.5	94.0	95.7	96.7	96.3	96.1	95.6	95.8	95.5	100.1	97.6	90.1	85.9	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICL	=	ADH304	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	74.00	PAMB HG	=	29.35
WIND DIR	=		WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=	
FNINI	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1700.6 FPS	AE8	=	3.4 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2600.0 FPS	AE18	=	18.0 SQ IN
RUNPT = 82F-400-0130 TAPE = X01301 TEST PT NO = 0130 NC = AE063 CORR FAN SPEED = RPM														

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OF PODR QUALITY

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B118-08

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1109 X1109C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	79.8	80.6	79.6	76.4	80.7	77.1	77.7	79.1	78.1	82.1	86.0	86.2	89.4	123.7
63	87.4	90.5	85.5	84.8	87.9	83.2	87.6	89.5	85.5	87.8	90.2	90.6	92.8	130.2
80	82.9	87.0	83.0	84.5	84.1	86.2	87.1	85.3	83.5	85.6	87.7	90.1	92.8	128.4
100	82.7	88.0	83.8	86.8	87.7	87.3	87.9	89.3	85.0	88.5	92.0	95.2	98.1	131.7
125	81.4	83.4	86.0	87.7	87.8	87.7	86.6	88.2	86.5	91.1	95.7	99.3	102.0	134.3
160	82.4	78.7	83.2	83.6	84.6	84.2	88.9	85.3	86.7	91.7	96.7	99.9	103.5	134.8
200	83.6	83.9	83.1	84.7	85.8	86.6	90.0	89.9	88.9	93.6	98.3	102.3	105.7	136.9
250	80.3	87.3	84.6	84.9	85.5	88.3	90.5	91.4	93.3	98.3	103.3	107.2	108.9	140.9
315	85.4	85.7	85.7	88.4	89.6	88.9	93.1	93.2	94.9	99.8	104.6	109.1	111.0	142.7
400	82.7	86.3	86.8	87.5	88.2	89.0	101.7	93.3	98.5	103.1	107.7	111.7	111.6	145.0
500	84.2	86.5	87.1	87.5	88.4	90.3	93.2	93.6	99.8	104.7	109.5	113.2	112.3	146.1
630	84.9	87.2	88.7	89.3	90.4	91.2	92.6	94.5	100.7	106.1	111.4	114.4	113.3	147.4
800	88.4	88.7	90.5	91.7	92.4	92.7	94.1	96.5	102.0	107.1	112.2	114.1	113.3	147.7
1000	93.7	95.2	97.0	96.4	94.9	93.7	94.9	96.5	101.5	106.5	111.4	113.9	113.8	147.6
1250	92.8	95.3	95.6	98.0	98.7	99.3	99.4	97.6	101.1	105.7	110.3	112.9	113.0	147.0
1600	101.5	101.7	100.1	100.3	97.0	97.1	97.9	99.2	100.3	104.9	109.5	113.0	114.7	147.5
2000	106.0	102.4	101.3	98.7	95.8	94.9	96.9	98.2	99.6	103.1	106.6	109.7	109.7	145.2
2500	107.0	105.2	105.3	104.1	101.7	97.6	96.7	98.8	99.7	102.0	104.3	107.3	107.1	145.6
3150	104.1	104.4	105.2	105.0	103.8	102.4	99.7	98.2	99.0	101.3	103.6	104.5	105.0	145.3
4000	100.5	100.7	102.1	103.2	103.7	103.1	101.3	99.6	97.0	99.1	101.2	102.0	102.0	143.9
5000	100.0	100.5	101.1	100.8	100.8	101.5	101.4	100.7	96.7	98.4	100.2	100.0	100.5	142.9
6300	98.4	100.2	100.6	100.3	100.2	99.0	99.7	100.9	95.7	97.1	98.6	97.9	98.6	142.1
8000	96.3	98.9	99.2	100.1	99.1	98.9	98.6	99.7	94.6	95.5	96.5	95.5	96.4	141.4
10000	95.0	98.2	98.2	100.0	98.7	99.0	98.2	97.9	94.1	94.6	95.1	94.6	94.7	141.3
12500	93.4	95.2	96.3	99.2	98.1	98.1	97.1	96.6	91.4	92.6	93.8	93.1	93.4	140.8
16000	90.8	94.2	93.8	97.7	97.1	96.8	96.1	95.7	89.2	90.6	92.0	91.1	90.9	140.7
20000	89.5	91.8	91.7	96.2	95.6	95.9	95.2	93.3	86.6	88.5	90.5	89.6	90.0	140.9
25000	86.1	89.4	89.0	94.1	94.0	94.9	94.5	93.3	86.7	87.9	89.0	88.1	86.9	142.0
31500	80.0	84.4	83.1	89.8	89.2	90.3	89.3	88.6	81.6	83.2	84.9	83.2	81.7	140.3
40000	77.4	81.3	80.5	86.2	86.0	86.9	86.7	86.1	78.1	79.8	81.6	80.0	78.9	141.2
50000	73.9	77.8	76.2	82.3	83.0	84.5	82.7	81.7	73.1	75.6	78.2	76.0	74.7	142.1
63000	69.4	75.0	72.5	78.4	78.8	80.3	78.2	77.9	68.0	71.3	74.6	72.5	68.8	143.3
80000	63.8	73.3	68.3	72.4	72.5	74.9	72.3	71.4	58.5	63.8	69.2	65.4	61.0	144.6

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CASPL 112.5 112.1 112.3 112.5 111.7 111.1 111.2 110.8 111.4 115.5 120.0 122.8 123.0 158.6  
PNL 126.0 125.6 126.0 126.0 125.1 124.5 124.1 123.5 123.4 126.4 129.9 132.5 133.4  
PNLT 127.1 126.2 127.3 126.0 125.1 125.8 125.6 123.5 123.4 126.4 129.9 132.5 134.6  
DBA 113.3 112.5 112.7 112.5 111.5 110.7 110.3 110.2 111.0 114.9 119.3 121.9 122.1

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VERTCL = ADH288 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FRINT = LBS XNL = RPM XNH = RPM V8 = 1688.7 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1578.7 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-1109 TAPE = X1109C TEST PT NO = 1109 NC = AE063 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1109 XT109F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	79.8	80.0	79.6	76.4	80.7	77.1	77.7	79.1	78.1	82.1	86.0	86.2	89.4	123.7
63	87.4	90.5	85.5	84.8	87.9	83.2	87.6	89.5	85.5	87.8	90.2	90.6	92.8	130.2
79	82.9	87.0	83.0	84.5	84.1	86.2	87.1	85.3	83.5	85.6	87.7	90.1	92.8	128.4
100	82.7	88.0	83.8	86.8	87.7	87.3	87.9	89.3	85.0	88.5	92.0	95.2	98.1	131.7
125	81.4	83.4	86.0	87.7	87.8	87.7	88.6	88.2	86.5	91.1	95.7	99.3	102.0	134.3
160	82.4	78.7	83.2	83.6	84.6	84.2	88.9	85.3	86.7	91.7	96.7	99.9	103.5	134.8
200	83.6	83.9	83.1	84.7	85.8	86.6	90.0	89.9	88.9	93.6	98.3	102.3	105.7	136.9
250	80.3	87.3	84.6	84.9	85.5	88.3	90.5	91.4	93.3	98.3	103.3	107.2	108.9	140.9
315	85.4	85.7	85.7	88.4	89.6	88.9	93.1	93.2	94.9	99.8	104.6	109.1	111.0	142.7
400	82.7	86.3	86.8	87.5	88.2	89.0	101.7	93.3	98.5	103.1	107.7	111.7	111.6	145.0
500	84.2	86.5	87.1	87.5	88.4	90.3	93.2	93.6	99.8	104.7	109.5	113.2	112.3	146.1
630	84.9	87.2	88.7	89.3	90.4	91.2	92.6	94.5	100.7	106.1	111.4	114.4	113.3	147.4
800	88.4	88.7	90.5	91.7	92.4	92.7	94.1	96.5	102.0	107.1	112.2	114.1	113.3	147.7
1000	93.7	95.2	97.0	96.4	94.9	93.7	94.9	96.5	101.5	106.5	111.4	113.9	113.8	147.6
1250	92.8	95.3	95.6	98.0	98.7	99.3	99.4	97.6	101.1	105.7	110.3	112.9	113.0	147.0
1600	101.5	101.7	100.1	100.3	97.0	97.1	97.9	99.2	100.3	104.9	109.5	113.0	114.7	147.5
2000	106.0	102.4	101.3	98.7	95.8	94.9	96.9	98.2	99.6	103.1	106.6	109.7	109.7	145.2
2500	107.0	105.2	105.3	104.1	101.7	97.6	96.7	98.8	99.7	102.0	104.3	107.3	107.1	145.6
3150	104.1	104.4	105.2	105.0	103.8	102.4	99.7	98.2	99.0	101.3	103.6	104.5	105.0	145.3
4000	100.5	100.7	102.1	103.2	103.7	103.1	101.3	99.6	97.0	99.1	101.2	102.0	102.0	143.9
5000	100.0	100.5	101.1	100.8	100.8	101.5	101.4	100.7	96.7	98.4	100.2	100.0	100.5	142.9
6300	98.4	100.2	100.6	100.3	100.2	99.0	99.7	100.9	95.7	97.1	98.6	97.9	98.6	142.1
8000	96.3	98.9	99.2	100.1	99.1	98.9	98.6	99.7	94.6	95.5	96.5	95.5	96.4	141.4
10000	95.0	98.2	98.2	100.0	98.7	98.0	98.2	97.9	94.1	94.6	95.1	94.6	94.7	141.3
12500	93.4	95.2	96.3	99.2	98.1	98.1	97.1	96.6	91.4	92.6	93.8	93.1	93.4	140.8
16000	90.8	94.2	93.8	97.7	97.1	96.8	96.1	95.7	89.2	90.6	92.0	91.1	90.9	140.7
20000	89.5	91.8	91.7	96.2	95.6	95.9	95.2	93.3	86.6	88.5	90.5	89.6	90.0	140.9
25000	86.1	89.4	89.0	94.1	94.0	94.9	94.5	93.3	86.7	87.9	89.0	88.1	86.9	142.0
31500	80.0	84.4	83.1	89.8	89.2	90.3	89.3	88.6	81.6	83.2	84.9	83.2	81.7	140.3
40000	77.4	81.3	80.5	86.2	86.0	86.9	86.7	86.1	78.1	79.8	81.6	80.0	78.9	141.2
50000	73.9	77.8	76.2	82.3	83.0	84.5	82.7	81.7	73.1	75.6	78.2	76.0	74.7	142.1
63000	69.4	75.0	72.5	78.4	78.8	80.3	78.2	77.9	68.0	71.3	74.6	72.5	68.8	143.3
80000	63.8	73.3	68.3	72.4	72.5	74.9	72.3	71.4	58.5	63.8	69.2	65.4	61.0	144.6
BAS: L	112.5	112.1	112.3	112.5	111.7	111.1	111.2	110.8	111.4	115.5	120.0	122.8	123.0	158.6
PNL	126.0	125.6	126.0	126.0	125.1	124.5	124.1	123.5	123.4	126.4	129.9	132.5	133.4	
PNLT	127.1	126.2	127.3	126.0	125.1	125.8	125.6	123.5	123.4	126.4	129.9	132.5	134.6	
DBA	185.5	194.0	189.6	194.3	194.5	196.5	194.1	193.4	182.1	186.3	190.8	187.6	183.8	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CGAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH288 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1688.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1578.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1109 TAPE = XT109F TEST PT NO = 1109 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1109 X11091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	61.4	66.5	68.1	69.5	70.6	71.6	84.1	75.3	79.8	83.4	86.4	88.2	84.7	163.1
63	62.9	66.7	68.3	69.5	70.8	72.8	75.6	75.6	81.1	84.9	88.2	89.6	85.4	164.2
80	63.5	67.4	70.0	71.3	72.7	73.7	75.0	76.5	82.0	86.2	90.0	90.7	86.3	165.5
100	67.0	68.8	71.7	73.7	74.7	75.2	76.5	78.4	83.2	87.2	90.7	90.4	86.1	165.9
125	72.1	75.2	78.1	78.2	77.1	76.1	77.1	78.4	82.6	86.5	89.9	90.0	86.4	165.7
160	71.0	75.1	76.5	79.7	80.8	81.6	81.6	79.3	82.0	85.5	88.5	88.8	85.2	165.1
200	79.5	81.3	80.9	81.9	78.9	79.2	79.9	80.8	81.1	84.6	87.5	88.5	86.5	165.7
250	83.7	81.8	81.9	80.1	77.6	76.8	78.7	79.5	80.1	82.5	84.3	84.8	80.8	163.3
315	84.2	84.3	85.6	85.2	83.2	79.2	78.3	79.9	80.0	81.0	81.5	81.9	77.4	163.8
400	80.8	83.0	85.1	85.7	85.0	83.7	81.0	78.9	78.9	79.9	80.4	78.5	74.4	163.5
500	76.8	78.9	81.6	83.6	84.6	84.2	82.2	80.0	76.5	77.3	77.4	75.3	70.3	162.1
630	75.8	78.3	80.4	80.9	81.5	82.4	82.1	80.9	76.0	76.3	75.9	72.6	67.8	161.1
800	73.7	77.7	79.5	80.2	80.7	79.5	80.2	80.8	74.6	74.6	73.9	69.8	64.8	160.3
1000	71.1	76.0	77.9	79.8	79.4	79.4	78.9	79.4	73.3	72.7	71.3	66.7	61.4	159.5
1250	69.4	75.0	76.7	79.5	78.9	79.3	78.4	77.5	72.5	71.4	69.5	65.0	58.2	159.4
1600	66.8	71.4	74.3	78.4	78.0	78.2	77.0	75.8	69.4	68.8	67.2	62.2	54.6	158.9
2000	63.3	69.8	71.5	76.8	76.8	76.8	75.8	74.7	66.9	66.3	64.5	58.6	49.1	158.9
2500	60.2	66.2	68.5	74.5	74.7	75.3	74.3	71.6	63.4	63.0	61.2	54.2	43.2	159.1
3150	53.4	61.4	63.9	70.8	71.8	73.0	72.3	70.0	61.6	59.8	56.4	47.8	31.8	160.1
4000	41.1	51.6	54.2	63.3	64.0	65.5	64.1	62.0	52.7	50.5	46.0	33.9	12.1	158.5
5000	28.7	41.0	45.4	54.2	55.8	57.2	56.5	54.1	42.9	39.5	32.9	17.0		159.4
6300	7.5	23.3	29.0	39.6	42.7	45.0	42.4	39.0	25.9	21.1	11.7			160.2
8000			4.0	16.4	20.4	23.0	19.8	15.9						161.5
10000														162.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	89.5	90.6	92.1	93.0	92.5	92.0	92.1	91.2	91.8	95.0	97.9	98.4	94.7	176.5
PNL	94.2	96.3	98.2	100.1	99.8	99.8	99.3	96.1	95.3	97.1	98.8	98.3	94.6	
PNLT	94.7	96.8	98.9	100.1	100.3	100.4	99.8	98.1	95.3	97.1	98.8	98.3	95.2	
DBA	83.8	86.1	87.9	89.6	89.4	89.2	88.4	87.6	83.5	84.4	85.3	84.6	80.9	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL	=	ADH288	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX	FLTVEL	=	0. FPS
JAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	69.00	PAMB HG	=	29.35	RELHUM	=	90.3 PCT
WIND DIR	=		DEG		WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=	NBFR	
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1688.7 FPS	AE8	=	3.4 SQ IN			
FNRMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	1578.7 FPS	AE18	=	18.0 SQ IN			

RUNPT = 82F-ZER-1109 TAPE = X11091 TEST PT NO = 1109 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1110 X1110C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.8	79.8	76.6	77.1	79.0	77.6	78.2	79.6	76.8	83.4	87.0	85.7	93.6	125.2
63	90.9	88.0	84.7	82.6	85.6	83.5	86.9	85.3	82.7	90.5	90.9	85.1	92.5	129.5
80	82.9	86.7	83.7	85.0	83.9	85.5	86.9	85.5	84.2	91.3	86.9	90.1	93.8	129.2
100	81.5	86.0	81.8	84.3	84.9	84.5	84.7	86.6	82.8	89.3	89.5	92.9	96.8	129.8
125	79.2	81.4	82.7	84.9	84.8	85.2	86.1	85.7	83.7	88.8	82.7	97.3	99.8	131.9
160	80.7	76.7	81.0	80.8	81.4	80.7	87.3	81.3	83.5	86.0	93.2	97.1	101.0	132.0
200	83.1	79.1	78.9	80.2	81.0	82.1	86.3	84.7	84.4	90.2	93.6	98.5	101.9	133.0
250	77.3	78.8	78.8	79.9	80.5	81.8	85.2	86.1	88.3	90.9	88.3	102.0	102.9	135.3
315	81.9	80.9	80.4	81.6	82.8	83.2	88.6	87.0	89.9	92.2	99.4	103.8	103.5	136.6
400	77.2	79.8	80.0	80.7	81.9	82.8	93.9	86.3	92.3	93.4	101.7	104.7	101.6	137.5
500	78.2	79.8	80.6	82.3	82.7	83.8	86.9	87.6	94.6	93.6	104.3	105.2	98.8	138.2
630	78.7	80.2	81.7	82.9	83.4	85.2	86.6	88.3	95.2	95.0	105.2	104.9	95.8	138.5
800	80.2	80.7	82.5	83.5	84.6	86.0	87.6	90.0	96.3	96.6	106.5	102.6	93.0	138.8
1000	83.4	83.2	83.7	84.4	85.6	86.2	88.1	90.8	96.0	97.8	105.4	100.9	91.3	138.1
1250	85.5	87.3	87.1	86.5	86.7	87.6	89.4	91.1	95.8	98.1	103.8	97.7	90.7	137.0
1600	98.5	96.7	94.1	90.8	89.5	89.6	91.4	92.7	95.4	99.4	102.8	96.0	92.5	138.1
2000	102.5	102.2	101.3	98.7	94.1	90.7	91.7	93.2	94.6	99.1	99.6	93.5	92.0	140.3
2500	102.8	103.5	103.8	103.4	101.2	96.3	92.5	93.9	94.7	99.8	98.0	91.8	90.1	142.4
3150	98.9	100.4	101.4	102.5	102.3	101.1	97.8	93.7	94.0	98.4	96.4	90.3	87.3	141.7
4000	96.0	96.2	97.3	99.2	99.4	100.4	99.5	96.4	92.5	99.7	94.4	89.2	87.0	140.2
5000	97.1	97.3	97.4	96.8	96.1	97.1	98.5	98.0	92.3	101.4	94.2	88.7	87.0	139.6
6300	96.2	97.0	97.1	96.9	96.3	95.0	95.3	97.0	92.4	101.3	93.4	88.7	85.9	139.1
8000	95.1	96.4	97.0	96.7	95.4	95.2	94.1	95.2	91.7	101.5	92.5	87.3	85.4	139.1
10000	93.6	96.0	97.1	97.6	95.8	95.3	94.3	93.3	90.7	99.7	91.5	86.7	84.0	139.1
12500	92.5	93.8	95.7	96.9	95.0	95.7	93.3	92.7	87.5	96.4	89.4	85.7	83.3	138.6
16000	90.8	93.7	93.6	95.9	94.5	94.0	93.1	92.4	85.0	96.0	88.0	83.8	80.6	139.0
20000	88.5	90.6	91.8	94.3	92.9	93.4	92.2	90.6	83.2	95.2	86.6	82.6	79.3	139.3
25000	85.2	88.2	89.7	92.0	91.5	92.1	91.7	90.0	63.2	94.8	85.2	82.1	77.1	140.4
31500	78.9	83.3	84.3	87.5	86.5	87.9	86.9	85.7	78.6	90.9	81.5	77.8	71.8	139.0
40000	75.4	79.5	85.2	83.8	83.6	84.2	83.8	84.0	74.3	89.3	79.0	75.3	68.9	140.6
50000	71.9	76.3	87.4	79.9	80.1	81.6	80.3	79.1	69.3	86.5	74.6	71.0	64.2	142.9
63000	67.5	74.2	89.9	75.2	75.3	77.0	74.7	75.0	63.6	84.1	71.2	65.7	58.7	147.7
80000	61.7	74.0	91.5	68.5	69.0	71.9	68.5	67.8	55.7	79.3	64.8	57.9	49.7	154.8

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OF POOR QUALITY

GASPL 108.9 109.4 109.8 109.7 108.6 107.8 107.2 106.5 106.4 111.6 114.1 113.1 111.1 157.7  
PNL 122.1 122.7 122.9 122.7 122.2 121.3 120.9 119.6 118.7 124.2 123.8 121.1 118.6  
PNLT 123.6 122.7 122.9 122.7 122.2 121.3 121.9 119.6 118.7 124.2 123.8 121.1 118.6  
DBA 109.4 109.8 109.9 109.7 108.5 107.4 106.4 105.7 106.0 110.9 113.1 110.1 105.2

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH310	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLYVEL = 400. FPS
IAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 76.00	PAMB HG = 29.40	RELHUM = 66.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1598.7 FPS	AE8 =	3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1592.9 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-1110	TAPE = X1110C	TEST PT NO = 1110	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1110 XT110F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	83.5	84.1	82.9	82.6	81.8	81.8	83.3	82.5	86.5	87.9	94.5	99.4	100.9	132.9
315	83.5	84.0	82.9	82.6	84.1	83.4	87.2	84.2	89.0	89.3	97.3	101.0	100.4	134.2
400	87.1	85.2	83.7	83.9	83.7	83.0	92.6	83.6	92.5	90.9	101.2	103.3	100.3	136.6
500	84.2	85.7	84.7	84.0	84.6	84.1	86.2	85.7	94.0	93.4	103.7	105.2	100.6	138.2
630	85.8	86.1	85.5	85.7	85.3	85.6	86.0	86.7	95.2	95.3	105.7	104.6	101.1	139.0
800	86.3	86.6	86.7	86.4	86.7	86.5	86.9	88.3	95.5	97.2	105.6	104.4	102.0	139.2
1000	87.9	87.2	87.6	87.1	87.5	86.9	87.6	89.3	95.5	97.8	104.1	101.4	101.7	138.1
1250	89.3	88.4	88.0	87.5	88.4	88.4	89.1	89.8	95.3	99.1	102.9	99.2	102.7	137.7
1600	90.6	91.6	90.6	89.1	91.7	90.6	91.4	91.8	93.7	97.8	98.7	95.6	101.1	136.3
2000	106.1	103.1	99.3	94.6	96.3	92.0	91.4	91.6	96.1	100.7	99.2	95.9	101.1	141.3
2500	109.9	108.4	106.3	102.3	103.6	97.9	93.6	94.3	95.1	99.3	97.7	94.6	98.5	145.5
3150	109.2	108.9	108.1	106.6	105.5	103.1	98.6	93.6	94.9	102.1	87.4	95.1	99.7	146.9
4000	105.6	106.5	106.6	106.6	103.1	103.0	101.2	97.4	95.0	104.0	97.6	95.6	101.3	145.9
5000	103.6	102.9	103.1	103.9	99.7	100.1	100.9	99.6	94.4	103.0	95.7	94.5	99.4	143.7
6300	101.9	101.9	101.7	100.7	99.8	98.0	97.5	98.0	93.5	102.9	94.5	92.8	98.7	142.4
8000	100.8	101.4	101.1	100.5	99.0	98.2	96.3	96.0	93.1	101.9	94.3	93.1	98.1	142.1
10000	99.9	101.0	101.2	100.4	99.7	98.3	96.6	94.4	91.5	100.4	93.9	93.2	97.6	142.3
12500	99.2	101.3	101.7	101.5	99.0	98.7	95.7	94.6	89.2	100.2	93.0	92.4	96.7	143.2
16000	98.8	99.4	100.4	100.6	98.6	97.0	95.5	94.2	87.7	99.7	91.9	91.6	95.8	143.6
20000	96.7	98.9	97.9	99.2	96.9	96.4	94.7	92.3	87.2	98.5	89.4	89.6	92.4	143.9
25000	93.8	95.2	95.5	97.0	95.5	95.1	93.8	90.9	82.9	94.6	85.6	84.8	85.7	143.8
31500	89.8	92.0	92.6	94.0	90.6	90.9	88.8	86.3	79.3	93.8	83.7	83.0	83.6	143.6
40000	82.6	86.3	86.4	88.6	87.7	87.2	85.6	84.4	74.7	91.3	79.7	79.1	79.2	143.4
50000	78.7	82.1	86.9	84.5	84.1	84.6	82.1	79.5	69.8	89.7	77.1	74.6	74.5	145.2
63000	73.8	77.6	87.9	79.6	79.5	80.0	76.4	75.2	63.3	86.4	72.2	68.3	67.0	147.8
80000	70.8	76.1	90.4	74.0	73.2	74.9	70.2	68.0	53.5	76.5	62.4	58.5	57.2	153.9

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CASPL 115.4 115.0 114.3 113.3 111.7 110.2 108.5 106.9 106.6 112.9 113.3 112.7 113.1 158.7  
 PNL 128.2 127.8 127.0 125.7 124.6 122.7 121.3 119.4 118.6 125.4 122.7 121.3 124.7  
 PNLT 130.1 128.9 127.0 125.7 124.6 122.7 122.3 119.4 118.6 125.4 122.7 121.3 124.7  
 DBA 191.9 196.9 210.6 195.8 195.2 196.5 192.3 190.4 177.6 200.0 186.0 182.5 181.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH310 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 66.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1592.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1110 TAPE = XT110F TEST PT NO = 1110 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1110 XT1101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.8	65.4	65.0	65.9	66.1	65.6	75.0	65.6	73.8	71.1	79.9	79.8	73.5	154.7
63	62.9	65.9	66.0	66.0	67.0	66.7	68.6	67.7	75.3	73.6	82.3	81.7	73.7	156.3
80	64.5	66.3	66.8	67.7	67.7	68.1	68.4	68.6	76.4	75.5	84.3	81.0	74.1	157.2
100	64.9	66.7	67.9	68.3	69.0	69.0	69.3	70.2	76.7	77.3	84.1	80.6	74.8	157.3
125	66.3	67.2	68.7	68.9	69.8	69.3	69.9	71.1	76.7	77.8	82.6	77.6	74.3	156.2
160	67.6	68.2	68.9	69.2	70.6	70.6	71.3	71.5	76.3	78.9	81.2	75.1	75.0	155.9
200	68.5	71.3	71.4	70.6	73.7	72.7	73.4	73.3	74.5	77.4	76.7	71.2	72.9	154.4
250	83.8	82.5	79.8	75.9	78.1	73.9	73.2	73.0	76.7	80.0	76.8	71.1	72.2	159.5
315	87.1	87.4	86.5	83.4	85.1	79.6	75.2	75.4	75.4	78.3	74.9	69.2	68.8	163.6
400	85.9	87.5	88.0	87.4	86.7	84.5	79.8	74.4	74.8	80.7	74.1	69.1	69.0	165.0
500	81.8	84.7	86.2	87.1	84.1	84.1	82.2	77.8	74.6	82.2	73.8	68.9	69.6	164.0
630	79.4	80.8	82.3	84.0	80.3	80.9	81.5	79.8	73.6	80.8	71.4	67.1	66.7	161.8
800	77.2	79.4	80.6	80.5	80.2	78.6	77.9	77.9	72.4	80.4	69.8	64.7	64.8	160.5
1000	75.6	78.5	79.8	80.2	79.3	78.7	76.6	75.7	71.8	79.1	69.1	64.3	63.1	160.2
1250	74.2	77.9	79.7	79.9	79.8	78.7	76.7	74.0	70.0	77.2	68.2	63.7	61.2	160.5
1600	72.7	77.5	79.8	80.7	78.9	78.8	75.5	73.8	67.2	76.4	66.4	61.5	57.9	161.3
2000	71.3	75.1	78.0	79.5	78.3	77.0	75.2	73.1	65.4	75.4	64.4	59.0	54.0	161.7
2500	67.4	73.3	74.7	77.5	76.1	75.8	73.8	70.6	64.0	72.9	60.1	54.3	45.6	162.0
3150	61.2	67.2	70.4	73.8	73.3	73.2	71.5	67.7	57.8	66.6	62.9	44.4	30.6	162.0
4000	50.9	59.2	63.7	67.4	65.4	66.1	63.5	59.8	50.4	61.0	44.8	33.7	14.0	161.7
5000	33.9	46.0	51.3	56.6	57.4	57.6	55.4	52.5	39.5	51.0	31.1	16.1		161.6
6300	12.3	27.5	39.7	41.8	43.8	45.1	41.8	36.8	22.6	35.2	10.6			163.4
8000			19.4	17.6	21.0	22.7	18.0	13.2	7.0					168.0
10000														172.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	91.9	93.2	93.7	93.5	92.5	91.0	89.1	87.0	86.8	90.9	91.2	88.1	83.7	176.8
PNL	97.3	99.6	100.6	100.9	100.2	99.1	97.3	95.0	91.4	98.1	92.7	88.2	85.0	
PNLT	98.3	100.1	100.6	101.4	100.7	99.7	97.9	95.0	91.4	98.8	92.7	88.2	85.0	
DBA	87.5	89.6	90.8	91.2	89.9	88.9	87.1	84.9	80.6	87.8	79.9	74.9	74.1	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL	=	ADH310	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX	FLTVEL	=	400. FPS
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	76.00	PAMB HG	=	29.40	RELHUM	=	66.8 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=	
FNINI	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1698.7 FPS	AE8	=	3.4 SQ IN			
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	1592.9 FPS	AE18	=	18.0 SQ IN			

RUNPT = 82F-400-1110 TAPE = XT1101 TEST PT NO = 1110 MC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1111 X1111C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.8	81.6	76.6	77.4	79.5	77.3	77.7	82.6	78.3	82.4	86.5	85.5	87.9	123.0
63	88.9	90.5	84.7	84.5	86.6	84.5	87.1	91.8	85.0	87.6	90.2	88.4	90.8	130.2
80	83.9	87.5	83.7	85.5	85.1	87.2	88.4	87.0	85.0	87.0	88.9	90.9	93.8	129.5
100	83.7	88.3	84.3	86.8	87.9	87.8	88.2	89.8	86.5	89.8	93.0	96.2	98.6	132.4
125	82.2	83.9	86.2	88.4	88.6	88.7	89.3	89.0	87.5	91.9	96.4	100.3	102.5	135.0
160	82.7	79.7	84.7	84.1	85.6	85.7	89.4	86.5	87.2	92.2	97.2	100.9	104.5	135.7
200	83.8	84.4	84.4	86.2	86.0	87.4	91.0	91.2	89.1	94.0	98.8	103.8	106.9	138.0
250	81.5	88.6	86.1	86.1	87.2	89.6	91.7	92.6	94.8	99.7	104.5	108.5	110.4	142.2
315	85.4	86.9	86.7	89.4	90.6	90.4	94.1	94.0	96.2	101.0	105.9	110.1	112.7	144.0
400	84.0	87.3	88.0	88.2	89.2	90.5	102.9	94.3	99.8	104.4	109.0	112.4	113.1	146.1
500	86.0	87.3	88.3	88.8	89.7	91.5	93.9	94.8	101.1	106.0	111.0	113.9	114.1	147.3
630	86.2	88.7	90.0	90.6	91.6	92.5	93.6	95.5	101.7	106.9	112.2	114.6	114.8	148.2
800	88.7	89.2	91.7	92.7	93.4	93.2	94.9	97.5	103.0	108.1	113.2	115.4	115.0	149.0
1000	95.4	96.7	98.7	97.9	96.4	95.2	96.1	97.5	102.5	107.3	112.2	115.1	115.5	148.8
1250	93.8	96.0	96.6	99.7	100.4	100.8	101.4	99.4	102.1	106.7	111.3	114.7	115.5	148.7
1600	101.5	99.7	98.1	97.3	97.0	96.8	99.2	100.0	101.6	105.7	109.8	113.7	115.2	147.9
2000	107.0	103.7	102.8	101.0	97.3	96.4	97.6	99.7	100.3	103.8	107.4	111.7	112.5	146.8
2500	106.0	105.5	105.1	105.1	102.9	100.1	98.5	99.8	101.2	103.4	105.5	110.1	111.1	146.9
3150	103.1	103.4	104.4	104.7	104.0	102.9	101.0	99.7	100.5	102.7	104.9	108.3	108.5	146.1
4000	99.8	100.4	101.8	102.9	102.7	102.6	102.0	101.3	98.5	100.4	102.4	105.7	106.2	144.5
5000	99.3	100.3	101.1	101.0	100.6	101.5	101.9	102.0	97.7	99.7	101.7	104.0	105.0	143.8
6300	97.7	99.5	100.1	100.8	100.2	100.0	100.5	101.4	97.2	98.4	99.6	101.9	102.4	142.8
8000	95.8	98.6	99.4	100.1	99.1	99.9	99.3	100.2	95.9	96.9	98.0	99.0	100.9	142.1
10000	94.8	98.2	98.5	99.5	99.2	99.5	99.2	99.2	95.3	96.1	96.9	98.1	99.4	142.0
12500	93.4	96.2	97.3	99.2	97.8	99.3	97.9	98.6	92.9	93.9	95.0	96.1	97.9	141.7
16000	90.8	95.2	95.6	98.7	97.8	97.1	97.1	97.2	91.0	92.3	93.5	94.4	95.9	141.9
20000	88.7	92.0	92.2	96.7	96.6	96.9	96.2	95.0	88.8	90.7	92.5	92.3	94.2	142.1
25000	86.1	90.4	89.7	94.8	95.3	96.2	95.8	94.0	88.0	89.4	90.8	90.6	91.1	143.2
31500	80.3	85.4	84.4	90.3	89.9	91.3	90.5	90.1	83.1	84.7	86.4	85.9	85.4	141.4
40000	77.1	82.0	81.3	86.9	87.8	88.4	88.0	86.1	79.8	81.8	83.8	83.5	82.1	142.7
50000	73.7	77.8	77.4	83.3	84.0	85.3	84.5	83.7	75.8	78.0	80.2	79.5	79.2	143.5
63000	69.1	75.3	73.3	78.4	79.8	81.3	79.4	80.2	70.5	73.8	77.1	76.0	74.0	144.6
80000	62.5	74.0	69.0	73.4	74.0	76.4	73.5	73.9	62.2	67.3	72.4	69.2	68.5	146.2

OASPL 112.3 112.1 112.3 112.9 112.0 111.8 112.3 112.0 112.6 116.6 121.0 124.1 124.8 159.7

PNL 125.5 125.6 125.8 126.1 125.5 124.9 125.0 124.8 124.7 127.6 130.7 134.2 135.2

PNLT 127.2 127.0 127.3 126.1 126.7 126.5 126.5 124.8 124.7 127.6 130.7 134.2 135.2

DBA 113.1 112.4 112.6 112.8 111.8 111.3 111.4 111.4 112.1 116.0 120.2 123.4 124.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH289 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1645.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1111 TAPE = X1111C TEST PT NO = 1111 NC = AE063 CORR FAN SPEED = RPM

ORIGINAL PAGE 18  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1111 X1111F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	80.6	81.6	76.6	77.4	79.5	77.3	77.7	82.6	78.3	82.4	86.5	85.5	87.9	123.8
63	88.9	90.5	84.7	84.6	86.6	84.5	87.1	91.8	85.0	87.6	90.2	88.4	90.8	130.2
80	83.9	87.5	83.7	85.5	85.1	87.2	88.4	87.0	85.0	87.0	88.9	90.9	93.8	129.5
100	83.7	88.3	84.3	86.8	87.9	87.8	88.2	89.8	86.5	89.8	93.0	96.2	98.6	132.4
125	82.2	83.9	86.2	88.4	89.6	88.7	89.3	89.0	87.5	91.9	96.4	100.3	102.5	135.0
160	82.7	79.7	84.7	84.1	85.6	85.7	89.4	86.5	87.2	92.2	97.2	100.9	104.5	135.7
200	83.8	84.4	84.4	86.2	86.0	87.4	91.0	91.2	89.1	94.0	98.8	103.8	106.9	138.0
250	81.5	88.6	86.1	86.1	87.2	89.6	91.7	92.6	94.8	99.7	104.5	108.5	110.4	142.2
315	85.4	86.9	86.7	89.4	90.6	90.4	94.1	94.0	96.2	101.0	105.9	110.1	112.7	144.0
400	84.0	87.3	88.0	88.2	89.2	90.5	102.9	94.3	99.8	104.4	109.0	112.4	113.1	146.1
500	86.0	87.3	88.3	88.8	89.7	91.5	93.9	94.8	101.1	106.0	111.0	113.9	114.1	147.3
630	86.2	88.7	90.0	90.6	91.6	92.5	93.6	95.5	101.7	106.9	112.2	114.6	114.8	148.2
800	88.7	89.2	91.7	92.7	93.4	93.2	94.9	97.5	103.0	108.1	113.2	115.4	115.0	149.0
1000	95.4	96.7	98.7	97.9	96.4	95.2	96.1	97.5	102.5	107.3	112.2	115.1	115.5	148.8
1250	93.8	96.0	96.6	99.7	100.4	100.8	101.4	99.4	102.1	106.7	111.3	114.7	115.5	148.7
1600	101.5	99.7	98.1	97.3	97.0	96.8	99.2	100.0	101.6	105.7	109.8	113.7	115.2	147.9
2000	107.0	103.7	102.8	101.0	97.3	96.4	97.6	99.7	100.3	103.8	107.4	111.7	112.5	146.8
2500	106.0	105.5	105.1	105.1	102.9	100.1	98.5	99.8	101.2	103.4	105.5	110.1	111.1	146.9
3150	103.1	103.4	104.4	104.7	104.0	102.9	101.0	99.7	100.5	102.7	104.9	108.3	108.5	146.1
4000	99.8	100.4	101.8	102.9	102.7	102.6	102.0	101.3	98.5	100.4	102.4	105.7	106.2	144.5
5000	99.3	100.3	101.1	101.0	100.6	101.5	101.9	102.0	97.7	99.7	101.7	104.0	105.0	143.8
6300	97.7	99.5	100.1	100.8	100.2	100.0	100.5	101.4	97.2	98.4	99.6	101.9	102.4	142.8
8000	95.8	98.6	99.4	100.1	99.1	99.9	99.3	100.2	95.9	96.9	98.0	99.0	100.9	142.1
10000	94.8	98.2	98.5	99.5	99.2	99.5	99.2	99.2	95.3	96.1	96.9	98.1	99.4	142.0
12500	93.4	96.2	97.3	99.2	97.8	99.3	97.9	98.6	92.9	93.9	95.0	96.1	97.9	141.7
16000	90.8	95.2	95.6	98.7	97.8	97.1	97.1	97.2	91.0	92.3	93.5	94.4	95.9	141.9
20000	88.7	92.0	92.9	96.7	96.6	96.9	96.2	95.0	88.8	90.7	92.5	92.3	94.2	142.1
25000	86.1	90.4	89.7	94.8	95.3	96.2	95.8	94.0	88.0	89.4	90.8	90.6	91.1	143.2
31500	80.3	85.4	84.4	90.3	89.9	91.3	90.5	90.1	83.1	84.7	86.4	85.9	85.4	141.4
40000	77.1	82.0	81.3	86.9	87.8	88.4	88.0	88.1	79.8	81.8	83.8	83.5	82.1	142.7
50000	73.7	77.8	77.4	83.3	84.0	85.3	84.5	83.7	75.8	78.0	80.2	79.5	79.2	143.5
63000	69.1	75.3	73.3	78.4	79.8	81.3	79.4	80.2	70.5	73.8	77.1	76.0	74.0	144.6
80000	62.5	74.0	69.0	73.4	74.0	76.4	73.5	73.9	62.2	67.3	72.4	69.2	68.5	146.2
CASPL	112.3	112.1	112.3	112.9	112.0	111.8	112.3	112.0	112.6	116.6	121.0	124.1	124.8	159.7
PNL	125.5	125.6	125.8	126.1	125.5	124.9	125.0	124.8	124.7	127.6	130.7	134.2	135.2	
PNLT	127.2	127.0	127.3	126.1	126.7	126.5	126.5	124.8	124.7	127.6	130.7	134.2	135.2	
DBA	184.6	194.7	190.4	195.0	195.8	197.9	195.4	195.8	185.2	189.4	193.8	191.3	190.2	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH289 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1645.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1111 TAPE = XT1111F TEST PT NO = 1111 NC = AEOG3 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1111 X11111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.7	67.5	69.3	70.2	71.6	73.1	85.3	76.3	81.1	84.6	87.7	88.9	86.2	164.3
63	64.7	67.5	69.6	70.8	72.1	74.1	76.3	76.8	82.3	86.2	89.7	90.4	87.2	165.5
80	64.8	68.9	71.2	72.6	74.0	75.0	76.0	77.5	83.0	87.1	90.8	91.0	87.8	166.3
100	67.2	69.3	72.9	74.7	75.7	75.7	77.2	79.4	84.2	88.2	91.7	91.7	87.9	167.1
125	73.9	76.7	79.8	79.7	78.6	77.6	78.4	79.4	83.6	87.3	90.6	91.3	88.1	167.0
160	72.0	75.9	77.5	81.4	82.6	83.1	83.6	81.1	83.0	86.5	89.5	90.6	87.7	166.8
200	79.5	79.3	78.9	78.9	78.9	79.0	81.1	81.5	82.4	85.3	87.8	89.3	87.0	166.0
250	84.7	83.0	83.4	82.3	79.1	78.3	79.4	81.0	80.9	83.2	85.0	86.8	83.6	164.9
315	83.2	84.5	85.3	86.2	84.5	81.7	80.0	80.9	81.5	82.4	82.8	84.7	81.4	165.0
400	79.8	82.0	84.3	85.5	85.3	84.2	82.2	80.4	80.4	81.3	81.6	82.2	77.9	164.2
500	76.0	78.7	81.4	83.4	83.6	83.7	83.0	81.8	78.0	78.7	78.7	79.0	74.6	162.7
630	75.0	78.1	80.4	81.2	81.2	82.4	82.6	82.1	77.0	77.5	77.4	76.6	72.3	161.9
800	73.0	76.9	79.0	80.7	80.7	80.5	80.9	81.3	76.1	75.8	74.9	73.8	68.5	160.9
1000	70.6	75.8	78.1	79.8	79.4	80.4	79.6	79.9	74.6	74.1	72.8	70.2	65.9	160.2
1250	69.1	75.0	76.9	79.0	79.4	79.8	79.4	78.7	73.8	72.9	71.2	68.5	62.9	160.2
1600	66.8	72.4	75.3	78.4	77.7	79.4	77.8	77.8	70.9	70.2	68.5	65.2	59.1	159.9
2000	63.3	70.8	73.3	77.6	77.5	77.0	76.8	76.2	68.7	67.9	66.0	61.8	54.1	160.0
2500	59.4	66.5	69.7	75.0	75.7	76.3	75.3	73.3	65.6	65.1	63.2	56.9	47.5	160.2
3150	53.4	62.4	64.6	71.6	73.1	74.2	73.6	70.8	62.9	61.3	58.1	50.3	36.0	161.3
4000	41.4	52.6	55.5	63.8	64.7	66.5	65.3	63.5	54.2	52.0	47.5	36.6	15.8	159.6
5000	28.5	41.7	46.1	55.0	57.5	58.7	57.7	56.1	44.7	41.5	35.1	20.5		160.9
6300	7.2	23.3	30.2	40.6	43.7	45.8	44.2	41.0	28.6	23.5	13.7			161.6
8000			4.7	16.4	21.4	24.0	21.0	18.2	1.9					162.7
10000														164.3
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
ASPL	89.4	90.6	92.1	93.3	92.9	92.7	93.2	92.3	92.9	96.0	98.9	99.6	96.4	177.6
PNL	94.0	96.5	98.2	100.3	100.4	100.7	100.4	99.5	96.7	98.3	99.6	99.9	96.5	
PNLT	94.8	97.2	99.0	100.9	101.0	101.5	101.0	99.5	97.3	98.3	100.7	99.9	96.5	
DBA	83.3	85.9	87.9	89.8	89.6	89.8	89.2	88.8	84.8	85.6	86.3	86.9	83.4	

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH289 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1645.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1111 TAPE = X11111 TEST PT NO = 1111 NC = AE063 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1112 X1112C  
BACKGROUND 82F-400-0100 X01090

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	82.1	79.1	80.1	81.0	78.6	78.7	80.4	77.6	84.4	88.0	86.7	97.1	127.4
63	91.2	87.5	83.7	86.6	87.9	85.0	87.1	85.5	80.7	90.8	90.9	85.6	96.0	130.4
80	83.4	87.2	84.0	84.5	84.4	86.0	87.4	85.8	84.2	90.6	87.7	90.1	98.5	130.4
100	82.2	87.0	83.3	85.3	85.7	85.3	86.4	88.1	83.3	89.6	90.2	94.2	99.6	131.3
125	80.4	82.2	84.2	85.9	86.3	86.7	87.6	87.2	84.2	89.5	93.2	98.1	101.5	133.1
160	80.9	77.7	81.5	81.3	82.4	81.7	88.4	82.5	84.5	86.5	94.2	98.1	102.3	133.0
200	83.1	80.4	79.9	80.2	81.5	82.9	86.8	85.9	84.9	90.4	94.3	99.5	103.4	134.1
250	78.0	79.8	79.6	81.1	81.7	83.6	86.2	87.1	88.6	90.1	99.5	103.7	104.9	136.9
315	82.6	82.2	81.7	82.9	83.6	84.4	89.1	87.2	91.2	92.5	100.6	104.8	105.2	137.8
400	78.0	80.8	81.3	82.5	83.2	83.8	95.4	87.6	93.5	93.6	103.5	106.7	103.6	139.3
500	79.5	80.5	81.8	83.3	83.4	84.8	88.2	88.8	95.3	94.1	105.5	107.2	101.3	139.8
630	79.4	81.0	82.7	84.1	84.4	86.0	87.6	89.5	96.0	95.3	106.7	106.4	97.5	139.9
800	81.2	81.7	83.3	85.0	85.4	87.0	88.6	91.3	96.8	96.6	107.5	104.9	94.3	140.0
1000	84.7	84.2	84.7	85.9	86.4	87.2	89.6	91.3	96.2	97.3	105.7	102.4	92.8	138.5
1250	90.0	91.1	87.8	89.0	87.4	88.8	90.4	92.6	96.3	98.1	104.3	99.0	92.0	137.7
1600	100.3	99.4	96.1	95.1	91.7	91.1	92.4	93.5	95.4	98.9	102.6	96.5	92.0	139.0
2000	102.8	102.4	102.6	101.2	96.8	92.7	92.9	94.0	95.3	99.1	100.6	95.0	92.2	141.2
2500	101.5	102.0	103.1	103.4	102.2	98.8	94.7	94.9	96.0	99.5	98.3	92.8	89.6	142.3
3150	98.4	99.4	100.2	101.5	101.1	101.6	99.8	95.5	94.5	98.4	97.1	91.3	87.8	141.4
4000	96.3	96.5	97.8	98.7	98.7	99.2	99.5	97.9	93.2	99.4	95.4	90.0	87.0	140.0
5000	96.6	97.0	97.4	97.6	96.9	96.6	98.2	98.5	93.3	101.6	95.4	89.5	86.5	139.8
6300	95.7	96.3	96.8	97.1	96.5	95.5	96.0	97.5	93.2	101.3	94.1	88.9	85.9	139.3
8000	94.1	96.2	95.7	96.9	95.6	95.7	95.1	95.5	92.7	100.5	93.8	87.5	85.2	138.9
10000	93.6	96.3	96.1	96.8	96.1	95.8	95.3	94.8	91.7	99.7	92.7	88.5	84.2	139.2
12500	93.5	94.6	95.7	96.4	95.2	96.0	94.3	93.2	89.3	97.7	91.2	87.0	83.8	139.0
16000	91.0	94.7	93.8	96.4	95.0	94.5	94.3	92.9	86.7	95.8	89.5	85.8	82.1	139.7
20000	89.0	91.4	91.8	95.1	94.4	94.7	93.5	92.1	85.4	96.0	89.1	84.9	81.5	140.3
25000	86.0	89.4	89.5	92.5	92.7	93.8	93.2	92.0	85.5	95.6	87.5	84.8	79.3	141.6
31500	79.4	83.8	84.6	88.5	87.5	89.2	88.4	87.5	80.6	92.1	83.8	80.0	74.3	140.3
40000	75.7	80.0	85.2	84.8	84.6	86.2	86.1	85.5	76.5	90.3	80.7	76.8	71.2	141.9
50000	72.4	77.0	87.4	80.2	81.3	82.8	82.0	81.3	70.8	87.7	76.3	73.0	66.4	143.8
63000	67.8	74.4	89.9	75.7	76.1	79.2	76.7	77.5	64.9	85.6	72.4	67.7	60.4	148.2
80000	62.0	74.0	91.8	70.0	70.8	73.2	70.5	70.0	57.2	81.8	66.1	60.7	51.7	155.3

CASPL 108.9 109.3 109.7 110.0 108.9 108.3 108.2 107.4 107.1 111.6 115.0 114.7 113.0 158.2  
PNL 121.6 122.2 122.6 123.1 122.0 121.9 121.5 120.5 119.4 124.2 124.4 122.6 120.0  
PNLT 122.4 122.2 122.6 123.1 123.1 122.5 122.7 120.5 119.4 124.2 124.4 122.6 120.0  
DBA 109.3 109.6 109.8 110.0 108.7 107.8 107.3 106.7 106.6 110.7 113.8 111.7 106.7

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADR311 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 66.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1704.0 FPS A8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1649.4 FPS A18 = 18.0 SQ IN  
RUMPT = 82F-400-1112 TAPE = X1112C TEST PT NO = 1112 NC = AE063 CORR FAN SPEED = RPM

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OF POOR QUALITY

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P1109-08

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1112 X1112F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	84.9	85.6	84.1	84.1	83.2	83.6	84.3	83.5	87.7	88.1	95.7	100.4	102.6	134.2
315	84.9	85.6	84.1	84.1	84.8	84.6	87.7	84.4	90.3	89.5	99.0	103.0	102.4	135.9
400	87.6	86.3	84.9	85.1	85.0	84.0	94.1	84.8	92.7	90.7	101.8	104.6	102.1	137.6
500	85.3	86.9	86.1	85.8	85.3	85.1	87.3	86.6	94.7	93.6	105.0	106.6	102.2	139.5
630	86.9	86.8	86.7	86.7	86.3	86.4	87.0	87.9	95.8	95.5	106.9	107.0	102.4	140.5
800	87.1	87.4	87.7	87.6	87.4	87.5	88.0	89.7	95.9	96.9	105.8	105.7	103.2	139.9
1000	88.9	88.2	88.3	88.6	88.2	87.9	89.2	90.0	96.2	98.0	104.7	102.7	102.8	138.8
1250	90.4	89.3	88.8	88.9	89.2	89.6	90.2	91.5	95.4	98.7	102.8	99.9	102.4	137.9
1600	96.7	96.5	92.0	91.8	93.9	92.1	92.4	92.5	95.4	98.4	100.2	97.5	101.7	138.0
2000	107.8	105.8	101.1	98.7	99.0	94.0	93.4	93.5	97.7	100.8	99.9	97.4	101.1	143.1
2500	109.9	108.4	107.3	104.6	104.6	100.4	95.9	95.4	94.8	98.3	97.5	94.7	98.3	146.1
3150	106.8	106.6	106.9	106.5	104.3	103.6	100.4	94.8	96.5	102.7	99.2	96.8	100.7	146.0
4000	105.4	105.7	105.5	105.7	102.4	101.7	101.6	99.5	95.5	103.7	98.2	95.8	100.5	145.3
5000	103.7	103.1	103.5	103.3	100.5	99.6	100.5	99.8	95.2	103.1	96.5	94.8	99.6	143.7
6300	101.9	102.1	102.1	101.7	100.2	98.5	98.5	98.5	94.9	102.4	96.4	93.7	99.0	142.8
8000	101.0	101.3	101.5	101.1	99.5	98.7	97.4	96.6	94.3	102.1	95.8	95.1	98.5	142.6
10000	99.8	101.6	100.6	101.0	100.0	98.8	97.6	96.0	93.1	101.5	95.7	94.9	98.9	142.9
12500	99.3	101.7	100.8	100.8	99.2	99.0	96.7	95.0	91.0	101.1	94.5	94.3	98.0	143.3
16000	99.2	99.8	100.1	99.9	99.1	97.5	96.8	94.7	90.3	100.9	94.8	94.0	97.9	144.0
20000	96.9	99.8	98.1	99.7	98.4	97.7	95.9	94.0	90.5	100.5	93.2	94.2	96.4	145.1
25000	94.3	96.0	95.5	97.8	96.8	96.8	95.6	93.6	85.2	96.4	88.5	88.1	90.1	145.1
31500	90.5	93.2	92.4	94.5	92.1	92.2	90.4	88.3	81.6	94.8	85.6	84.6	85.9	144.6
40000	85.9	89.0	88.4	90.7	89.2	89.2	87.9	86.0	76.2	92.6	81.5	81.1	81.5	145.3
50000	81.8	84.8	88.6	86.6	85.4	85.6	83.9	81.8	71.1	91.2	78.4	76.7	76.3	147.0
63000	74.8	78.7	88.1	79.9	80.2	82.2	78.4	77.8	64.7	88.8	73.4	71.0	68.9	149.1
80000	70.9	76.3	90.3	74.4	75.0	76.2	72.2	70.2	54.9	79.0	63.6	61.2	59.1	154.1
0ASPL	115.3	114.8	114.1	113.6	112.0	110.6	109.5	107.9	107.6	113.2	114.2	114.2	114.0	159.2
PNL	128.1	127.3	126.6	126.0	124.3	123.2	122.1	120.4	119.7	125.3	123.9	122.5	125.0	
PNLT	129.4	127.3	128.4	126.0	124.3	123.2	123.2	120.4	119.7	125.3	123.9	122.5	125.0	
DBA	192.4	197.3	210.6	196.4	196.7	198.0	194.3	192.7	179.0	202.3	187.3	185.0	183.5	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH311 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.00 PAMB HG = 29.40 RELHUM = 66.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1704.0 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1649.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1112 TAPE = X1112F TEST PT NO = 1112 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1112 X11121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.3	66.6	66.2	67.1	67.4	66.6	76.5	66.9	74.0	70.9	80.5	81.1	75.3	155.8
63	64.0	67.1	67.4	67.8	67.7	67.7	69.7	68.6	76.0	73.8	83.7	83.0	75.3	157.6
80	65.5	66.9	67.9	68.7	68.7	68.9	69.4	69.9	77.1	75.7	85.5	83.4	75.4	158.7
100	65.6	67.5	68.9	69.5	69.8	70.0	70.4	71.6	77.1	77.0	84.4	82.0	76.1	158.0
125	67.3	68.2	69.4	70.4	70.5	70.3	71.5	71.8	77.4	78.0	83.1	78.8	75.4	157.0
160	68.7	69.1	69.8	70.6	71.3	71.9	72.4	73.2	76.3	78.5	81.0	75.8	74.7	156.0
200	74.6	76.1	72.7	73.4	75.9	74.2	74.4	74.1	76.2	78.1	78.1	73.0	73.4	156.1
250	85.5	85.2	81.7	80.0	80.8	75.9	75.2	74.8	78.2	80.2	77.5	72.5	72.2	161.3
315	87.1	87.4	87.5	85.6	86.1	82.1	77.4	76.5	75.0	77.3	74.7	69.3	68.6	164.2
400	83.6	85.3	86.8	87.2	85.5	85.0	81.6	75.6	76.4	81.3	76.0	70.7	70.0	164.1
500	81.7	84.0	85.1	86.2	83.3	82.8	82.6	80.0	75.1	81.9	74.5	69.1	68.8	163.5
630	79.5	80.9	82.8	83.5	81.2	80.4	81.2	80.0	74.5	80.9	72.3	67.4	66.8	161.9
800	77.1	79.6	81.0	81.6	80.7	79.1	78.7	78.4	73.8	79.9	71.6	65.6	65.1	160.9
1000	75.8	78.5	80.2	80.8	79.8	79.2	77.7	76.3	73.0	79.3	70.6	66.3	63.5	160.7
1250	72.1	78.4	79.1	80.6	80.1	79.2	77.8	75.6	71.6	78.3	70.0	65.3	62.4	161.0
1600	72.8	77.9	78.8	80.0	79.0	79.0	76.6	74.2	69.1	77.3	68.0	63.4	59.1	161.5
2000	71.7	75.4	77.8	78.9	78.8	77.5	76.5	73.7	68.0	76.6	67.3	61.4	56.1	162.2
2500	67.6	74.2	74.9	78.0	77.6	77.1	75.1	72.3	67.2	74.9	63.9	50.8	49.6	163.2
3150	61.7	67.9	70.4	74.5	74.5	74.9	73.3	70.3	60.1	68.3	65.9	47.8	34.9	163.2
4000	51.6	60.5	63.5	67.9	66.9	67.4	65.2	61.8	52.7	62.1	46.7	35.3	16.3	162.7
5000	37.2	48.7	53.2	58.8	59.0	59.6	57.7	54.0	41.1	52.3	32.8	18.1		163.5
6300	15.3	30.3	41.4	43.9	45.1	46.3	43.6	39.1	23.9	36.7	11.9			165.1
8000			19.6	18.0	21.8	24.9	20.0	15.8		9.4				167.2
10000														172.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	91.9	93.1	93.5	93.7	92.7	91.4	90.1	88.0	87.7	91.1	92.0	89.6	84.5	177.3
PNL	97.5	99.4	100.3	101.4	100.8	100.1	98.6	96.2	93.0	98.9	93.7	89.8	85.7	
PNLT	98.1	99.4	101.2	102.0	101.4	100.1	99.1	96.2	93.0	99.6	93.7	89.8	85.7	
DBA	87.3	89.4	90.5	91.3	90.2	89.3	87.9	85.9	81.9	88.2	81.1	76.2	74.4	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICLE	= ADH311		TEST DATE		= 08-27-82		LOCAT		= C41 ANECH CH		CONFIG		= 1	
IAPLHA	= SB59		IEGA		= NO		PWL AREA		= FULL SPHERE		TAMB F		= 76.00	
WIND DIR	=		DEG	WIND VEL	= MPH		EXT DIST		= 2400.0 FT		EXT CONFIG		= SL	
FNINI	=		LBS	XNL	=		RPM	XNH	=		RPM	V8	= 1704.0 FPS	
FNRAMB	=		LBS	XNLR	=		RPM	XNHR	=		RPM	V18	= 1649.4 FPS	
AE8 = 3.4 SQ IN														
AE18 = 18.0 SQ IN														
RUNPT = 82F-400-1112    TAPE = X11121    TEST PT NO = 1112    NC = AE063    CORR FAN SPEED =    RPM														

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P1185-08

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1113 X1113C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.8	79.6	79.1	81.4	78.7	80.1	78.7	85.4	79.6	83.4	87.3	87.2	88.9	125.2
63	85.9	89.0	81.5	87.5	87.9	87.2	88.4	94.0	86.0	88.6	91.2	90.9	92.5	131.3
80	85.4	89.0	85.2	87.0	86.9	88.2	89.6	88.3	86.0	88.0	89.9	92.4	95.5	130.9
100	85.2	89.8	86.0	88.6	89.2	89.5	90.4	91.6	87.5	90.9	94.2	97.4	100.3	133.9
125	83.7	84.7	87.2	88.9	89.3	90.0	90.6	90.2	88.7	93.1	87.4	101.1	104.3	136.2
160	83.9	80.7	85.5	85.6	86.9	87.0	90.9	87.5	88.2	93.4	98.7	101.9	106.0	137.0
200	84.8	85.4	85.9	86.9	87.3	88.9	91.5	91.9	90.9	95.6	100.3	105.0	108.4	139.4
250	83.0	89.8	87.3	86.9	88.0	90.6	92.7	93.4	95.6	100.8	106.0	109.7	111.6	143.5
315	86.9	87.9	87.4	90.6	91.3	91.7	95.1	95.0	97.2	102.2	107.1	111.6	113.5	145.2
400	85.2	88.8	89.3	89.2	90.7	91.8	103.9	95.3	100.8	105.5	110.2	114.2	114.3	147.5
500	87.0	88.8	89.6	90.0	90.7	92.5	95.4	95.8	102.1	107.2	112.3	115.7	115.3	148.7
630	87.7	90.0	90.5	91.8	92.6	93.7	94.6	96.8	102.7	107.9	113.2	116.4	116.0	149.5
800	90.7	90.5	92.7	94.0	94.4	94.7	96.1	98.0	103.5	108.8	114.2	116.1	116.3	149.9
1000	97.4	98.2	99.7	99.6	97.6	96.2	96.9	98.5	103.5	108.6	113.7	116.6	116.8	150.2
1250	99.0	100.5	98.8	101.5	101.7	102.3	102.2	100.6	102.8	107.7	112.5	116.2	117.5	150.2
1600	108.5	106.7	104.8	102.3	100.0	99.1	100.2	101.0	102.1	106.8	111.5	116.5	117.2	150.5
2000	111.5	108.9	109.3	108.0	104.5	99.9	99.9	100.5	102.1	106.0	109.9	114.9	115.2	150.6
2500	108.2	108.0	108.8	109.4	109.2	106.3	101.7	101.8	102.7	105.5	108.3	113.6	113.3	150.3
3150	105.9	105.9	106.7	107.0	107.3	108.4	106.5	102.0	101.5	104.3	107.1	111.5	110.8	149.1
4000	103.5	103.9	105.1	105.2	105.4	105.4	106.3	105.1	101.0	103.2	105.4	109.2	108.7	147.7
5000	103.0	103.5	104.1	104.3	104.3	104.0	104.4	105.2	100.2	102.2	104.2	107.0	107.0	146.7
6300	100.9	102.0	103.1	103.8	103.7	103.7	103.5	103.9	99.9	101.4	102.8	105.1	103.9	145.8
8000	99.3	100.6	101.9	103.1	102.3	103.1	102.6	102.9	98.9	99.8	100.7	102.5	102.4	145.0
10000	97.8	99.9	101.0	102.5	101.7	102.5	102.2	102.4	98.1	98.7	99.4	101.1	100.4	144.7
12500	96.1	97.4	99.0	101.7	100.6	101.1	100.9	101.3	95.6	96.7	97.8	99.9	98.9	144.2
16000	93.3	96.2	96.4	100.2	99.8	99.8	99.9	99.7	94.0	95.1	96.3	97.6	96.9	144.0
20000	91.7	93.8	93.7	97.7	97.8	98.9	98.4	97.5	91.6	93.3	95.0	95.6	95.2	143.9
25000	88.6	91.4	91.2	95.3	96.3	97.4	97.5	96.3	90.7	91.9	93.0	93.6	92.4	144.7
31500	82.5	86.6	85.9	91.6	91.4	92.8	92.0	91.6	85.4	86.9	88.4	88.7	86.2	143.0
40000	79.4	84.0	82.8	87.9	88.5	89.9	90.0	89.1	82.3	84.1	85.8	85.7	82.4	144.2
50000	76.4	80.3	78.7	84.1	85.3	86.3	85.7	85.0	79.1	80.8	82.4	83.0	79.7	144.9
63000	72.6	76.8	75.5	79.9	81.1	82.8	80.7	81.7	74.0	77.2	80.3	80.5	76.5	146.4
80000	68.3	74.3	71.1	74.4	75.5	77.9	75.3	76.2	66.8	71.1	75.4	75.2	70.2	148.1

CASPL 116.2 115.5 115.9 116.1 115.5 115.1 115.0 114.3 113.9 118.0 122.4 126.0 126.4 161.8

PNL 128.9 128.4 129.0 129.4 129.1 129.0 128.3 127.5 126.1 129.4 132.8 136.9 137.1

PNLT 131.1 129.1 130.3 129.4 130.5 130.6 129.6 127.5 126.1 129.4 132.8 136.9 137.1

DBA 117.1 116.1 116.5 116.4 115.8 115.1 114.4 113.7 113.4 117.4 121.8 125.5 125.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23163

VEHICLE = ADH290 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 90.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTN1 = LBS XNL = RPM XNH = RPM V8 = 1682.2 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1707.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1113 TAPE = X1113C TEST PT NO = 1113 NC = AE063 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-1113 X1113F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.8	79.6	79.1	81.4	78.7	80.1	78.7	85.4	79.6	83.4	87.3	87.2	88.9	125.2
63	85.9	89.0	81.5	87.6	87.9	87.2	88.4	94.0	86.0	88.6	91.2	90.9	92.5	131.3
80	85.4	89.0	85.2	87.0	86.9	88.2	89.6	88.3	86.0	88.0	89.9	92.4	95.5	130.9
100	85.2	89.8	86.0	88.6	89.2	89.5	90.4	91.6	87.5	90.9	94.2	97.4	100.3	133.9
125	83.7	84.7	87.2	88.9	89.3	90.0	90.6	90.2	88.7	93.1	97.4	101.1	104.3	136.2
160	83.9	80.7	85.5	85.6	86.9	87.0	90.9	87.5	88.2	93.4	98.7	101.9	106.0	137.0
200	84.8	85.4	85.9	86.9	87.3	88.9	91.5	91.9	90.9	95.6	100.3	105.0	108.4	139.4
250	83.0	89.8	87.3	86.9	88.0	90.6	92.7	93.4	95.6	100.8	106.0	109.7	111.6	143.5
315	86.9	87.9	87.4	90.6	91.3	91.7	95.1	95.0	97.2	102.2	107.1	111.6	113.5	145.2
400	85.2	88.8	89.3	89.2	90.7	91.8	103.9	95.3	100.8	105.5	110.2	114.2	114.3	147.5
500	87.0	88.6	89.6	90.0	90.7	92.5	95.4	95.8	102.1	107.2	112.3	115.7	115.3	148.7
630	87.7	90.0	90.5	91.8	92.6	93.7	94.6	96.8	102.7	107.9	113.2	116.4	116.0	149.5
800	90.7	90.5	92.7	94.0	94.4	94.7	96.1	98.0	103.5	108.8	114.2	116.1	116.3	149.9
1000	97.4	98.2	99.7	99.6	97.6	96.2	96.9	98.5	103.5	108.6	113.7	116.6	116.8	150.2
1250	99.0	100.5	98.8	101.5	101.7	102.3	102.2	100.6	102.8	107.7	112.5	115.2	117.5	150.2
1600	108.5	106.7	104.8	102.3	100.0	99.1	100.2	101.0	102.1	106.8	111.5	116.5	117.2	150.5
2000	111.5	108.9	109.3	108.0	104.5	99.3	99.9	100.5	102.1	106.0	109.9	114.9	115.2	150.6
2500	108.2	108.0	108.8	109.4	109.2	106.3	101.7	101.8	102.7	105.5	108.3	113.6	113.3	150.3
3150	105.9	105.9	106.7	107.0	107.3	108.4	106.5	102.0	101.5	104.3	107.1	111.5	110.8	149.1
4000	103.5	103.9	105.1	105.2	105.2	105.4	106.3	105.1	101.0	103.2	105.4	109.2	108.7	147.7
5000	103.0	103.5	104.1	104.3	104.3	104.3	104.4	105.2	100.2	102.2	104.2	107.0	107.0	146.7
6300	100.9	102.0	103.1	103.8	103.7	103.7	103.5	103.9	99.9	101.4	102.8	105.1	103.9	145.8
8000	99.3	100.6	101.9	103.1	102.3	103.1	102.6	102.9	98.9	99.8	100.7	102.5	102.4	145.0
10000	97.8	99.9	101.0	102.5	101.7	102.5	102.2	102.4	98.1	98.7	99.4	101.1	100.4	144.7
12500	96.1	97.4	99.0	101.7	100.6	101.1	100.9	101.3	95.6	96.7	97.8	99.9	98.9	144.2
16000	93.3	96.2	96.4	100.2	99.8	99.8	99.9	99.7	94.0	95.1	96.3	97.6	96.9	144.0
20000	91.7	93.8	93.7	97.7	97.8	98.9	98.4	97.5	91.6	93.3	95.0	95.6	95.2	143.9
25000	88.6	91.4	91.2	95.3	96.3	97.4	97.5	96.3	90.7	91.9	93.0	93.6	92.4	144.7
31500	82.5	86.6	85.9	91.6	91.4	92.8	92.0	91.6	85.4	86.9	88.4	88.7	86.2	143.0
40000	79.4	84.0	82.8	87.9	88.5	89.9	90.0	89.1	82.3	84.1	85.8	85.7	82.4	144.2
50000	76.4	80.3	78.7	84.1	85.3	86.3	85.7	85.0	79.1	80.8	82.4	83.0	79.7	144.9
63000	72.6	76.8	75.5	79.9	81.1	82.8	80.7	81.7	74.0	77.2	80.3	80.5	76.5	146.4
80000	68.3	74.3	71.1	74.4	75.5	77.9	75.3	76.2	66.8	71.1	75.4	75.2	70.2	148.1
OASPL	116.2	115.5	115.9	116.1	115.5	115.1	115.0	114.3	113.9	118.0	122.4	126.0	126.4	161.8
PNL	128.9	128.4	129.0	129.4	129.1	129.0	128.3	127.5	126.1	129.4	132.8	136.9	137.1	
PNLT	131.1	129.1	130.3	129.4	130.5	130.6	129.8	127.5	126.1	129.4	132.8	136.9	137.1	
DBA	189.6	195.2	192.4	196.1	197.2	199.4	197.0	197.8	189.2	192.9	196.8	196.7	192.1	

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH290 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 90.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1682.2 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1707.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-1113 TAPE = X1113F TEST PT NO = 1113 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-1113 X11131

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	63.9	69.0	70.6	71.2	73.1	74.3	86.3	77.3	82.1	85.7	88.9	90.7	87.5	165.7
63	65.7	69.0	70.8	72.0	73.1	75.1	77.8	77.8	83.3	87.4	90.9	92.1	88.4	166.9
80	66.3	70.1	71.7	73.8	75.0	76.2	77.0	78.7	84.0	88.1	91.8	92.7	89.0	167.6
100	69.2	70.6	73.9	75.9	76.7	77.2	78.5	79.9	84.7	88.9	92.7	92.4	89.1	168.0
125	75.9	78.2	80.8	81.5	79.9	78.6	79.1	80.4	84.6	88.6	92.1	92.8	89.4	168.3
160	77.2	80.4	79.8	83.2	83.8	84.6	84.3	82.3	83.8	87.5	90.7	92.1	89.7	168.4
200	86.5	86.3	85.6	83.9	81.9	81.2	82.1	82.5	82.9	86.5	89.5	92.0	89.0	168.7
250	89.2	88.3	89.9	89.3	86.3	81.8	81.7	81.8	82.6	85.3	87.5	90.1	86.3	168.7
315	85.5	87.0	89.1	90.4	90.7	88.0	83.3	82.9	83.0	84.5	85.5	88.2	83.7	168.5
400	82.6	84.5	86.6	87.7	88.5	89.7	87.7	82.7	81.4	82.9	83.9	85.5	80.1	167.3
500	79.8	82.2	84.6	85.6	86.1	86.5	87.2	85.5	80.5	81.4	81.7	82.5	77.1	165.8
630	78.8	81.3	83.4	84.4	85.0	84.9	85.1	85.4	79.5	80.0	79.9	79.6	74.3	164.8
800	76.2	79.4	82.0	83.7	84.2	83.3	83.9	83.8	78.8	78.8	78.1	77.0	70.0	164.0
1000	74.1	77.3	80.6	82.8	82.6	83.6	82.9	82.6	77.6	77.0	75.5	73.7	67.4	163.1
1250	72.1	76.8	79.4	82.0	81.9	82.8	82.4	82.0	76.5	75.5	73.7	71.5	63.9	162.9
1600	69.6	73.7	77.1	80.9	80.5	81.2	80.8	80.5	73.7	72.9	71.2	68.9	60.1	162.3
2000	65.8	71.8	74.0	79.1	79.5	79.8	79.6	78.7	71.7	70.8	68.8	65.1	55.1	162.2
2500	62.4	68.2	70.5	76.0	77.0	78.3	77.6	75.8	68.4	67.7	65.7	60.2	48.5	162.1
3150	55.9	63.4	66.1	72.1	74.1	76.5	75.3	73.0	65.6	63.8	60.4	53.3	37.3	162.8
4000	43.6	53.8	57.0	65.1	66.2	68.0	66.8	65.0	56.5	54.1	49.5	39.4	16.6	161.1
5000	30.7	43.7	47.6	56.0	58.3	60.2	59.8	57.1	47.2	43.7	37.1	22.7		162.3
6300	10.0	25.8	31.5	41.3	45.0	46.8	45.4	42.2	31.9	26.2	16.0			163.0
8000			7.0	17.9	22.7	25.5	22.3	19.7	5.4					164.6
10000														166.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	93.4	94.2	95.8	96.7	96.6	96.2	95.8	94.5	94.1	97.3	100.3	101.4	98.0	179.7
PNL	97.9	99.4	101.3	103.4	103.6	103.8	103.0	101.8	98.4	100.0	101.6	102.6	98.3	
PNLT	99.0	99.4	102.0	103.4	104.3	104.5	103.6	101.8	99.0	100.0	101.6	102.6	99.4	
DBA	86.9	88.8	91.0	92.7	92.8	93.0	92.4	91.6	87.0	87.8	88.6	89.7	85.5	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)    SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)    DIAMETER RATIO = 8.071    FREQ SHIFT = -9 NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICL = ADH290    TEST DATE = 08-27-82    LOCAT = C41 ANECH CH    CONFIG = 1    MODEL = AX    FLTVEL = 0. FPS IAPLHA = SB59    IEGA = NO    PWL AREA = FULL SPHERE    TAMB F = 69.00    PAMB HG = 29.30    RELHUM = 90.4 PCT WIND DIR =    DEG    WIND VEL =    MPH    EXT DIST = 2400.0 FT    EXT CONFIG = SL    MIKE HT =    NBFR =														
FNIN1 =    LBS    XNL =    RPM    XNH =    RPM    V8 = 1682.2 FPS    AE8 = 3.4 SQ IN FNRAMB =    LBS    XNLR =    RPM    XNHR =    RPM    V18 = 1707.9 FPS    AE18 = 18.0 SQ IN														
RUNPT = 82F-2ER-1113    TAPE = X11131    TEST PT NO = 1113    NC = AE063    CORR FAN SPEED =    RPM														

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OF POOR QUALITY

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P188-08

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1119 X1119C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	82.3	81.8	85.6	85.7	82.8	85.0	85.9	78.8	83.2	87.5	93.2	92.9	128.5
63	94.7	87.5	87.2	92.3	93.6	89.5	92.4	95.0	85.0	87.7	90.4	98.4	98.3	134.8
80	86.7	90.2	87.0	88.0	87.4	89.0	90.4	89.0	87.0	89.2	91.4	94.1	96.5	132.0
100	86.5	90.8	87.5	89.8	90.2	90.3	91.2	92.8	88.3	91.5	94.7	98.4	101.6	134.9
125	84.7	85.9	88.7	90.2	90.8	90.7	91.6	91.2	89.5	94.1	98.7	103.1	105.3	137.5
160	84.7	82.0	87.0	86.3	87.9	88.0	92.9	88.5	89.5	94.4	99.4	103.6	107.3	138.3
200	84.6	86.9	86.6	87.9	89.0	89.9	93.3	92.9	91.4	96.4	101.3	105.8	109.4	140.4
250	84.0	90.6	88.1	88.6	88.7	91.3	94.0	95.1	96.8	102.1	107.3	110.7	112.6	144.6
315	86.9	88.9	88.7	91.6	92.8	92.4	96.1	96.0	98.7	103.7	108.6	113.1	114.7	146.5
400	86.8	89.5	90.3	90.5	91.2	92.3	105.2	96.8	102.0	106.8	111.5	115.2	115.3	148.6
500	88.2	90.0	90.8	91.5	92.2	93.3	95.9	96.8	103.3	108.4	113.5	116.4	116.1	149.7
630	88.7	90.7	92.5	93.1	93.6	94.2	95.6	97.5	104.5	109.6	114.7	117.4	117.3	150.7
800	91.9	92.0	94.0	95.5	95.4	95.2	96.9	99.8	105.2	110.3	115.4	117.6	117.0	151.2
1000	104.2	100.7	102.7	101.9	100.6	100.5	100.4	100.3	104.5	110.0	115.4	119.1	119.5	152.6
1250	104.8	105.0	102.1	103.5	102.9	103.6	103.4	101.9	104.6	109.0	113.5	117.2	118.0	151.4
1600	110.5	108.7	108.1	106.3	103.0	100.6	101.9	102.5	103.6	108.1	112.5	116.7	118.0	151.7
2000	111.8	108.9	110.3	110.2	109.5	106.2	102.4	102.2	103.1	106.7	110.4	115.7	116.0	151.8
2500	108.0	108.0	108.6	109.5	110.2	109.3	106.0	103.8	104.0	107.0	110.0	115.1	114.3	151.5
3150	106.4	106.4	106.7	107.5	107.0	108.6	109.0	104.7	103.5	106.3	109.1	113.3	112.0	150.3
4000	104.0	103.9	105.3	106.7	105.7	105.4	106.3	107.1	102.2	104.8	107.4	111.5	109.7	148.7
5000	103.0	104.0	104.9	105.0	104.6	104.8	104.9	106.5	101.7	104.2	106.7	109.2	108.0	147.8
6300	101.7	102.7	103.8	104.3	105.0	104.2	104.2	104.7	101.4	103.1	104.8	107.9	106.1	147.0
8000	99.5	101.6	102.4	104.1	103.6	103.9	103.8	103.9	99.9	101.3	102.7	105.2	103.9	146.2
10000	98.0	100.4	101.5	103.5	103.0	103.7	103.5	103.4	99.3	100.5	101.6	104.6	102.9	146.1
12500	96.9	97.7	99.5	102.2	101.6	102.3	102.1	102.1	96.6	97.9	99.3	102.6	101.4	145.2
16000	94.1	96.9	97.4	100.7	100.3	100.3	100.9	101.2	94.8	96.4	98.0	100.1	99.7	145.1
20000	92.2	94.5	94.7	98.2	99.1	99.4	99.7	98.8	92.3	94.5	96.8	98.8	98.2	145.1
25000	89.1	91.9	92.2	97.1	97.0	98.2	98.3	97.5	91.7	93.0	94.3	95.9	94.6	145.8
31500	83.3	87.4	86.6	92.6	92.2	93.5	93.5	92.8	86.6	88.1	89.6	91.9	89.4	144.2
40000	79.9	84.3	84.0	89.2	89.5	90.9	90.7	90.6	83.8	85.7	87.6	89.5	86.4	145.5
50000	76.7	80.8	79.7	85.8	86.0	88.0	87.2	87.0	79.8	82.3	84.7	87.5	82.7	146.6
63000	73.4	78.0	76.3	81.9	82.6	84.5	83.0	83.9	75.5	79.2	82.8	84.5	79.0	148.5
80000	69.0	75.8	72.6	77.4	78.0	80.4	78.0	78.5	69.0	74.1	79.2	80.9	72.5	150.9

OASPL 117.2 116.3 116.8 117.4 117.0 116.5 116.5 115.7 115.3 119.4 123.8 127.3 127.6 163.2  
PNL 129.7 128.9 129.5 130.3 130.3 129.9 130.3 129.2 127.6 130.9 134.4 138.5 138.2  
PNLT 131.6 129.6 131.0 130.3 130.3 130.9 131.8 129.2 127.6 130.9 134.4 138.5 138.2  
DBA 118.0 116.9 117.4 117.7 117.3 116.6 116.1 115.3 114.9 118.9 123.1 126.8 126.9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH291 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLYVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 90.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINI = LBS XNL = RPM XNH = RPM V8 = 1680.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1752.6 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-1119 TAPE = X1119C TEST PT NO = 1119 NC = AE063 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1119 X1119F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	82.3	81.8	85.6	85.7	82.8	85.0	85.9	78.8	83.2	87.5	93.2	92.9	128.5
63	94.7	87.5	87.2	92.3	93.6	89.5	92.4	95.0	85.0	87.7	90.4	98.4	98.3	134.8
80	86.7	90.2	87.0	88.0	87.4	89.0	90.4	89.0	87.0	89.2	91.4	94.1	96.5	132.0
100	86.5	90.8	87.5	89.8	90.2	90.3	91.2	92.8	88.3	91.5	94.7	98.4	101.6	134.9
125	84.7	85.9	88.7	90.2	90.8	90.7	91.6	91.2	89.5	94.1	98.7	103.1	105.3	137.5
160	84.7	82.0	87.0	86.3	87.9	88.0	92.9	88.5	89.5	94.4	99.4	103.6	107.3	138.3
200	84.6	86.9	86.6	87.9	89.0	89.9	93.3	92.9	91.4	96.4	101.3	105.8	109.4	140.4
250	84.0	90.6	88.1	88.6	88.7	91.3	94.0	95.1	96.8	102.1	107.3	110.7	112.6	144.6
315	86.9	88.9	88.7	91.6	92.8	92.4	96.1	96.0	98.7	103.7	108.6	113.1	114.7	146.5
400	86.5	89.5	90.3	90.5	91.2	92.3	105.2	96.8	102.0	106.8	111.5	115.2	115.3	148.6
500	88.2	90.0	90.8	91.5	92.2	93.3	95.9	96.8	103.3	108.4	113.5	116.4	116.1	149.7
630	88.7	90.7	92.5	93.1	93.6	94.2	95.6	97.5	104.5	109.6	114.7	117.4	117.3	150.7
800	91.9	92.0	94.0	95.5	95.4	95.2	96.9	99.8	105.2	110.3	115.4	117.6	117.0	151.2
1000	104.2	100.7	102.7	101.9	100.6	100.5	100.4	100.3	104.5	110.0	115.4	119.1	119.5	152.6
1250	104.8	105.0	102.1	103.5	102.9	103.6	103.4	101.9	104.6	109.0	113.5	117.2	118.0	151.4
1600	110.5	108.7	108.1	106.3	103.0	100.6	101.9	102.5	103.6	108.1	112.5	116.7	118.0	151.7
2000	111.8	108.9	110.3	110.2	109.5	106.2	102.4	102.2	103.1	108.7	110.4	115.7	116.0	151.8
2500	108.0	108.0	108.6	109.6	110.2	109.3	106.0	103.8	104.0	107.0	110.0	115.1	114.3	151.5
3150	106.4	106.4	106.7	107.5	107.0	108.6	109.0	104.7	103.5	108.3	109.1	113.3	112.0	150.3
4000	104.0	103.9	105.3	106.7	105.7	105.4	106.3	107.1	102.2	104.8	107.4	111.5	109.7	148.7
5000	103.0	104.0	104.9	105.0	104.6	104.8	104.9	106.5	101.7	104.2	106.7	109.2	108.0	147.8
6300	101.7	102.7	103.8	104.3	105.0	104.2	104.2	104.7	101.4	103.1	104.8	107.9	106.1	147.0
8000	99.5	101.6	102.4	104.1	103.6	103.9	103.8	103.9	99.9	101.3	102.7	105.2	103.9	146.2
10000	98.0	100.4	101.5	103.5	103.0	103.7	103.5	103.4	99.3	100.5	101.6	104.6	102.9	146.1
12500	96.9	97.7	99.5	102.2	101.6	102.3	102.1	102.1	96.6	97.9	99.3	102.6	101.4	145.2
16000	94.1	96.9	97.4	100.7	100.3	100.3	100.9	101.2	94.8	96.4	98.0	100.1	99.7	145.1
20000	92.2	94.5	94.7	98.2	99.1	99.4	99.7	98.8	92.3	94.5	96.8	98.8	98.2	145.1
25000	89.1	91.9	92.2	97.1	97.0	98.2	98.3	97.5	91.7	93.0	94.3	95.9	94.6	145.8
31500	83.3	87.4	86.6	92.6	92.2	93.5	93.5	92.8	86.6	88.1	89.6	91.9	89.4	144.2
40000	79.9	84.3	84.0	89.2	89.5	90.9	90.7	90.6	83.8	85.7	87.6	89.5	86.4	145.5
50000	76.7	80.8	79.7	85.8	86.0	88.0	87.2	87.0	79.8	82.3	84.7	87.5	82.7	146.6
63000	73.4	78.0	76.3	81.9	82.6	84.5	83.0	83.9	75.5	79.2	82.8	84.5	79.0	148.5
80000	69.0	75.8	72.6	77.4	78.0	80.4	78.0	78.5	69.0	74.1	79.2	80.9	72.5	150.9
OASPL	117.2	116.3	116.8	117.4	117.0	116.5	116.5	115.7	115.3	119.4	123.8	127.3	127.6	163.2
PNL	129.7	128.9	129.5	130.3	130.3	129.9	130.3	129.2	127.6	130.9	134.4	138.5	138.2	
PNLT	131.6	129.6	131.0	130.3	130.3	130.9	131.8	129.2	127.6	130.9	134.4	138.5	138.2	
DBA	190.3	196.6	193.7	198.8	199.4	201.7	199.5	200.0	191.1	195.6	200.2	202.0	194.5	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH291	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 69.00	PAMB HG = 29.30	RELHUM = 90.4 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1680.1 FPS	AE8 = 3.4 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1752.6 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-1119 TAPE = X1119F TEST PT NO = 1119 NC = AE063 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1119 X11191

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	65.2	69.7	71.6	72.5	73.6	74.8	87.6	78.8	83.3	87.0	90.2	91.7	88.5	166.8
63	66.9	70.2	72.1	73.5	74.6	75.8	78.3	78.8	84.6	88.6	92.2	92.9	89.2	167.8
80	67.3	70.9	73.7	75.1	76.0	76.7	78.0	79.5	85.7	89.7	93.3	93.7	90.3	168.9
100	70.5	72.1	75.2	77.4	77.7	77.7	79.2	81.7	86.4	90.4	94.0	93.9	89.9	169.3
125	82.6	80.7	83.8	83.7	82.9	82.9	82.6	82.1	85.6	90.0	93.9	95.3	92.1	170.7
160	83.0	84.9	83.0	85.2	85.1	85.8	85.6	83.6	85.5	88.9	91.7	93.1	90.2	169.5
200	88.5	88.3	88.9	87.9	84.9	82.7	83.9	84.0	84.4	87.7	90.5	92.3	89.7	169.8
250	89.4	88.3	90.9	91.6	91.3	88.1	84.2	83.5	83.6	86.1	88.0	90.8	87.1	170.0
315	85.2	87.0	88.8	90.7	91.7	91.0	87.5	84.9	84.2	86.0	87.3	89.7	84.7	169.6
400	83.1	85.0	86.6	88.2	88.3	90.0	90.2	85.4	83.4	84.9	85.9	87.2	81.4	168.4
500	80.3	82.2	84.9	87.1	86.6	86.5	87.2	87.5	81.8	83.0	83.7	84.8	78.1	166.9
630	78.8	81.8	84.1	85.2	85.2	85.6	85.6	86.6	81.0	82.0	82.4	81.8	75.3	165.9
800	77.0	80.2	82.7	84.2	85.4	84.8	84.7	84.5	80.3	80.6	80.1	79.8	72.3	165.1
1000	74.4	78.8	81.1	83.6	83.9	84.4	84.1	83.6	78.6	78.5	77.5	76.5	68.9	164.3
1250	72.4	77.3	79.9	83.0	83.1	84.1	83.6	83.0	77.8	77.3	76.0	75.0	66.4	164.2
1600	70.3	73.9	77.6	81.4	81.5	82.4	82.0	81.3	74.7	74.2	72.7	71.7	62.6	163.4
2000	66.6	72.6	75.0	79.6	80.0	80.3	80.6	80.2	72.4	72.0	70.5	67.6	57.9	163.2
2500	62.9	69.0	71.5	76.5	78.2	78.8	78.8	77.1	69.1	69.0	67.5	63.4	51.5	163.3
3150	56.4	63.9	67.1	73.8	74.8	73.2	76.1	74.3	66.6	65.0	61.6	55.5	39.5	163.9
4000	44.4	54.6	57.7	66.1	67.0	68.7	68.3	66.3	57.7	55.4	50.7	42.6	19.8	162.3
5000	31.2	44.0	48.9	57.2	59.3	61.2	60.5	58.6	48.7	45.4	38.9	26.5		163.6
6300	10.2	26.3	32.5	43.1	45.7	48.5	46.9	44.2	32.6	27.7	18.2	0.4		164.7
8000			7.7	19.9	24.2	27.2	24.5	21.9	6.9					166.7
10000														169.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	94.5	95.1	96.8	98.1	98.1	97.7	97.4	96.0	95.6	98.7	101.6	102.7	99.2	181.1
PNL	98.7	99.9	102.3	104.3	104.8	104.7	104.7	103.3	99.9	101.4	103.1	103.8	99.4	
PNLT	99.6	99.9	103.1	104.8	104.8	105.2	104.7	103.3	100.4	101.4	103.1	104.9	99.4	
DBA	87.4	89.3	91.5	93.6	93.9	94.0	93.7	92.9	88.3	89.4	90.3	91.3	86.5	
MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICLE	= ADH291				TEST DATE = 08-27-82				LOCAT = C41 ANECH CH				CONFIG = 1	
IAPLHA	= SB59				IEGA = NO				PWL AREA = FULL SPHERE				TAMB F = 69.00	
WIND DIR	= DEG				WIND VEL = MPH				EXT DIST = 2400.0 FT				EXT CONFIG = SL	
MODEL	= AX				FLTVEL = 0. FPS				PAMB HG = 29.30				RELHUM = 90.4 PCT	
MIKE HT	=				NBFR =									
FNIN1	= LBS XNL				= RPM				V8 = 1680.1 FPS				AE8 = 3.4 SQ IN	
FNRAMB	= LBS XNLR				= RPM				V18 = 1752.6 FPS				AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-1119 TAPE = X11191 TEST PT NO = 1119 NC = AE063 CORR FAN SPEED = RPM														

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PI185-03

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1120 XT120C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.3	83.1	81.1	83.6	85.0	83.1	79.0	81.9	80.6	87.2	89.3	89.0	96.1	128.4
63	90.7	90.2	87.2	90.8	91.9	90.7	85.4	87.8	86.0	92.3	91.2	89.4	96.3	132.4
80	85.9	89.5	86.0	87.5	87.1	88.7	89.4	88.3	86.2	92.6	90.2	92.9	97.5	131.9
100	85.2	89.8	85.5	87.8	88.2	87.8	89.2	90.3	85.3	91.8	92.7	96.9	100.6	133.4
125	82.7	84.7	86.5	88.2	88.8	88.7	89.6	89.5	86.7	92.0	96.2	100.3	103.5	135.3
160	82.4	80.7	84.5	85.3	85.1	84.5	90.1	85.0	87.2	89.3	97.2	100.8	104.8	135.6
200	85.1	84.1	82.6	84.2	85.0	86.4	89.5	88.7	87.9	94.5	97.3	103.0	106.4	137.3
250	81.0	83.1	83.1	84.4	84.5	86.6	89.0	90.4	92.6	94.6	103.3	107.0	107.9	140.2
315	84.4	84.9	84.2	85.9	86.6	87.7	91.8	91.0	94.9	96.8	104.9	108.8	108.7	141.7
400	81.2	83.3	84.3	85.5	86.2	87.0	98.7	91.3	97.5	97.4	107.2	109.9	107.3	142.8
500	82.2	83.3	85.1	86.3	86.9	88.3	91.4	92.1	99.3	97.9	109.8	110.7	104.6	143.6
630	82.7	84.5	86.5	86.9	87.4	89.0	90.4	93.0	99.7	99.3	110.4	110.1	100.5	143.6
800	89.4	93.0	96.3	89.7	95.1	91.5	94.6	96.3	101.3	101.1	111.7	107.9	97.0	144.2
1000	95.2	93.7	93.7	92.1	92.6	91.5	93.9	95.3	100.5	101.1	109.4	105.9	95.8	142.5
1250	106.3	106.3	101.8	100.2	94.5	93.8	95.2	96.1	100.6	102.2	107.8	102.5	96.2	144.2
1600	109.0	109.9	110.9	109.6	106.0	99.6	97.9	97.7	99.9	103.2	106.8	100.5	96.7	148.4
2000	106.5	106.7	109.6	111.0	110.1	106.7	101.7	96.7	98.8	102.9	104.4	98.2	95.0	148.6
2500	104.5	105.0	105.3	107.4	108.4	110.1	107.2	102.4	99.7	104.8	103.3	97.3	93.6	148.2
3150	103.4	104.4	104.7	105.0	104.1	106.1	108.0	105.2	99.3	104.9	102.9	96.1	93.1	146.9
4000	101.8	102.0	104.1	104.2	103.7	102.9	104.5	105.9	99.0	107.7	101.2	95.0	92.3	146.0
5000	101.3	101.8	102.9	102.3	102.9	102.6	102.7	104.3	99.0	109.1	101.7	96.0	91.5	145.7
6300	100.0	101.0	101.9	102.4	102.8	101.5	102.5	102.2	99.7	108.1	100.2	94.7	90.7	145.1
8000	98.9	100.0	101.0	102.2	101.2	101.2	101.4	101.8	98.2	106.0	99.3	93.1	90.0	144.4
10000	96.6	99.1	100.6	101.1	100.9	101.6	101.4	101.1	96.7	104.6	97.8	92.8	89.0	144.2
12500	95.1	96.4	99.0	100.4	99.3	100.0	100.4	100.0	93.8	103.0	95.7	91.8	88.3	143.5
16000	93.1	95.5	96.2	98.5	98.4	98.1	99.2	98.8	92.6	101.9	94.9	90.5	86.7	143.5
20000	91.2	92.1	94.0	96.5	96.6	97.1	98.2	97.0	91.1	100.9	94.3	90.0	86.4	143.7
25000	88.2	90.7	91.7	94.8	95.5	95.8	96.7	96.0	90.0	100.4	93.0	89.0	84.0	144.9
31500	81.7	85.9	87.2	90.3	89.6	91.0	91.2	90.6	84.5	96.3	88.1	84.6	78.6	143.2
40000	78.6	83.2	87.9	86.5	86.8	88.1	88.5	88.4	80.2	93.6	84.7	80.9	74.8	144.6
50000	75.4	81.8	89.9	83.1	83.3	85.3	84.2	84.0	75.5	91.5	80.3	76.7	71.1	146.7
63000	72.1	82.8	91.9	79.1	79.2	82.1	79.3	80.3	70.3	89.1	76.8	72.1	65.5	150.9
80000	69.7	83.7	93.5	75.2	75.5	78.6	73.5	74.0	63.4	85.3	71.0	65.1	57.6	157.6

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CASPL 114.5 115.2 116.1 116.4 115.6 115.0 114.6 113.5 111.6 117.2 119.1 118.2 115.9 161.8  
PNL 126.2 127.0 128.1 128.9 128.4 128.8 128.5 127.1 123.9 130.3 129.1 126.4 123.4  
PNLT 128.6 129.7 130.3 130.0 130.7 130.0 129.6 127.1 123.9 130.3 129.1 126.4 123.4  
DBA 115.2 115.8 116.7 117.0 116.1 115.4 114.6 113.3 111.2 116.7 118.0 115.3 110.2

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH312	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLVEL = 400. FPS
IAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 77.50	PAMB HG = 29.40	RELHUM = 60.0 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM VB = 1701.6 FPS	AE8 =	3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1768.3 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-1120	TAPE = X1120C	TEST PT NO = 1120	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1120 X1120F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	87.7	88.7	87.5	87.3	85.9	86.6	87.1	86.8	91.5	92.4	100.0	104.4	106.1	138.0
315	87.7	88.7	87.5	87.3	88.0	87.9	90.5	88.2	93.3	93.3	102.8	106.2	106.2	139.4
400	90.1	89.8	88.1	88.6	89.0	87.3	97.4	88.6	97.1	94.9	106.5	108.6	105.8	141.7
500	88.8	89.6	89.2	88.9	88.8	88.6	90.7	90.1	98.5	97.7	109.0	110.6	105.5	143.3
630	89.9	89.7	90.0	89.8	89.3	89.4	89.7	91.4	100.0	99.6	110.8	109.7	105.0	143.9
800	90.3	90.9	91.5	90.4	97.2	92.0	93.9	94.4	100.2	100.7	109.8	109.5	106.6	143.9
1000	99.0	100.8	102.1	93.6	94.3	92.1	93.5	93.9	100.4	101.8	108.0	105.8	106.7	143.3
1250	102.1	99.3	98.0	95.0	96.7	94.6	95.0	94.9	99.9	102.8	106.8	103.5	106.7	142.8
1600	113.9	112.8	107.0	103.9	108.6	100.6	98.3	97.1	97.9	101.5	103.5	100.4	104.1	149.1
2000	119.2	118.5	117.5	114.2	112.5	108.0	101.4	97.1	99.2	103.9	102.8	100.0	103.2	155.3
2500	112.9	112.3	114.3	114.6	111.4	111.7	107.4	101.1	100.6	106.2	104.8	101.1	105.0	152.8
3150	112.1	111.6	110.8	111.6	107.1	108.1	108.9	105.2	101.2	109.7	103.9	101.3	106.4	151.2
4000	109.3	109.9	109.5	108.9	107.2	105.5	106.6	107.1	100.0	109.6	102.4	99.7	102.2	149.7
5000	108.1	107.8	109.3	108.5	106.7	105.6	104.5	104.6	100.8	108.6	101.0	98.5	101.5	148.9
6300	107.5	107.6	108.1	106.8	106.8	104.5	104.3	102.5	100.4	107.8	101.7	99.1	103.8	148.4
8000	106.6	107.2	107.3	106.9	105.2	104.2	103.7	102.8	99.7	107.4	101.3	99.9	103.9	148.2
10000	105.6	106.1	106.4	106.6	104.9	104.6	103.7	102.6	97.4	106.5	100.0	99.6	103.5	148.2
12500	103.5	105.2	105.8	105.4	103.3	103.0	102.8	101.7	96.4	105.6	99.3	98.5	102.4	147.9
16000	101.4	102.0	103.7	104.1	102.5	101.1	101.6	100.3	95.4	105.1	99.2	98.4	102.2	147.9
20000	99.1	100.7	100.5	101.8	100.6	100.1	100.6	98.6	94.3	104.5	97.8	97.4	100.2	148.0
25000	96.5	96.7	97.7	99.2	99.5	98.8	99.0	97.2	88.8	100.1	92.4	92.2	93.7	147.6
31500	92.7	94.5	94.7	96.7	93.7	94.0	93.2	91.2	85.2	98.0	89.4	88.6	89.4	146.9
40000	85.4	88.9	89.3	91.4	91.3	91.1	90.3	88.8	80.8	96.2	85.3	84.6	86.0	147.4
50000	83.6	87.5	91.0	88.1	87.3	88.3	86.0	84.4	76.4	94.7	82.7	81.0	81.3	149.6
63000	77.4	83.2	90.5	82.8	83.3	85.1	81.0	80.6	71.0	92.4	78.4	75.5	74.9	152.2
80000	75.3	84.7	92.2	77.8	79.7	81.6	75.2	74.2	61.2	82.5	68.6	65.6	65.1	156.9
CASPL	122.6	122.1	121.6	120.5	118.6	117.0	115.7	113.9	111.9	118.4	118.2	117.9	117.8	163.7
PNL	135.1	134.6	133.9	133.0	130.8	130.0	128.8	126.9	124.2	130.8	128.3	126.6	129.4	
PNLT	138.4	138.1	136.8	134.0	133.1	131.2	129.9	126.9	124.2	130.8	128.3	126.6	129.4	
DBA	196.3	205.1	212.5	199.5	200.8	202.7	197.1	196.2	185.0	205.9	192.2	189.4	189.1	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH312	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 77.50	PAMB HG = 29.40	RELHUM = 60.0 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNINI =	LBS XNL =	RPM XNH =	RPM V8 = 1701.6 FPS	AE8 = 3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1768.3 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-400-1120 TAPE = X1120F TEST PT NO = 1120 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1120 XT1201

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.8	70.0	69.4	70.6	70.4	69.8	79.8	70.6	78.4	75.2	85.2	85.1	79.0	159.9
63	67.5	69.8	70.5	70.9	71.2	71.2	73.1	72.1	79.8	77.9	87.7	87.0	78.6	161.5
80	68.5	69.9	71.3	71.7	71.7	71.9	72.1	73.4	81.2	79.8	89.4	86.1	78.0	162.1
100	68.9	71.0	72.7	72.3	79.6	74.5	76.2	76.3	81.4	80.8	88.3	85.8	79.4	162.0
125	77.4	80.8	83.2	75.5	76.5	74.5	75.7	75.8	81.5	81.8	86.4	82.0	79.3	161.4
160	80.3	79.2	78.9	76.7	78.8	76.9	77.1	76.7	80.9	82.7	85.0	79.3	78.9	160.9
200	91.9	92.4	87.8	85.5	90.6	82.7	80.3	78.6	78.7	81.2	81.4	75.9	75.9	167.2
250	96.9	97.8	98.0	95.5	94.3	89.9	83.2	78.5	79.8	83.2	80.4	75.1	74.4	173.4
315	90.1	91.4	94.6	95.7	92.9	93.3	88.9	82.2	80.8	85.3	82.1	75.6	75.3	171.0
400	88.9	90.2	90.7	92.3	88.3	89.5	90.1	86.0	81.1	88.3	80.7	75.3	75.7	169.3
500	85.6	88.1	89.0	89.3	88.2	86.6	87.5	87.5	79.5	87.8	78.7	73.0	70.5	167.8
630	83.8	85.7	88.5	88.7	87.4	86.4	85.1	84.7	80.0	86.5	76.8	71.1	68.7	167.0
800	82.7	85.1	87.1	86.7	87.2	85.1	84.7	82.4	79.3	85.3	77.0	71.0	69.9	166.5
1000	81.5	84.3	86.0	86.6	85.5	84.7	83.9	82.5	78.4	84.5	76.2	71.2	68.9	166.4
1250	80.0	82.9	84.9	86.2	85.0	85.0	83.9	82.1	75.9	83.4	74.4	70.0	67.1	166.4
1600	77.0	81.4	83.9	84.6	83.2	83.1	82.6	80.9	74.5	81.9	72.8	67.5	63.5	166.1
2000	73.9	77.7	81.4	83.1	82.1	81.1	81.3	79.3	73.1	80.8	71.7	65.9	60.4	166.0
2500	69.7	75.1	77.3	80.1	79.7	79.5	79.7	76.9	71.1	78.9	68.5	62.0	53.5	166.1
3150	63.8	68.6	72.6	75.9	77.3	76.9	76.8	74.0	63.7	72.1	59.8	51.8	38.6	165.8
4000	53.8	61.8	65.7	70.2	68.4	69.2	68.0	64.6	56.2	65.2	50.5	39.3	19.8	165.1
5000	36.7	48.6	54.2	59.5	61.0	61.5	60.1	56.8	45.6	55.9	36.6	21.7		165.6
6300	17.3	32.9	43.7	45.3	47.0	48.7	45.7	41.6	29.2	40.1	16.3			167.7
8000		3.8	21.9	20.8	24.9	27.8	22.6	18.6	2.5	13.0				170.3
10000														175.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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GASPL	99.8	101.0	101.6	101.1	99.8	98.2	96.6	94.0	92.0	96.3	96.0	93.2	88.1	181.8
PNL	104.7	106.5	107.6	107.4	106.2	105.4	104.1	101.7	97.4	103.5	98.1	93.8	90.2	
PNLT	106.4	108.3	109.0	108.0	107.4	106.0	104.1	101.7	98.0	104.1	98.1	93.8	90.2	
DBA	93.3	95.1	96.6	96.9	95.6	94.7	93.8	91.8	86.8	93.5	85.8	80.5	78.5	

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH312	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 77.50	PAMB HG = 29.40	RELHUM = 60.0 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1701.6 FPS	AE8 = 3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1768.3 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-400-1120 TAPE = XT1201 TEST PT NO = 1120 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1123 X1123C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.8	86.3	86.1	85.6	86.0	84.1	84.2	83.6	81.8	84.8	87.8	94.0	94.1	129.1
63	91.9	94.7	91.7	91.8	93.1	91.0	92.1	92.0	85.7	88.2	90.7	98.4	99.0	135.0
80	86.9	90.7	87.0	88.8	88.4	90.0	91.1	89.5	88.2	90.1	91.9	94.1	96.8	132.5
100	86.7	91.3	87.5	90.3	90.7	90.8	91.9	93.3	89.8	93.1	96.5	99.4	101.8	135.7
125	85.2	86.9	89.2	90.9	91.6	91.5	92.1	92.2	90.7	95.3	99.9	103.6	105.8	138.2
160	85.2	83.7	88.2	88.1	89.1	89.0	95.4	90.0	91.2	96.1	100.9	104.9	108.3	139.6
200	86.3	88.1	88.1	89.7	90.3	91.4	94.5	94.7	93.4	98.1	102.8	107.3	110.2	141.6
250	85.0	91.3	89.3	89.6	90.5	92.6	95.0	95.6	98.3	103.4	108.5	112.0	113.4	145.6
315	88.1	90.2	89.9	92.9	94.1	94.4	97.8	97.5	100.4	105.4	110.4	113.8	115.0	147.4
400	87.5	91.0	92.0	92.2	93.2	93.8	107.7	98.1	104.3	108.9	113.5	116.7	116.6	150.3
500	90.0	92.5	92.1	93.3	93.7	95.3	98.2	99.1	105.8	110.9	116.0	117.9	117.1	151.5
630	90.2	93.0	94.0	95.3	95.4	96.2	97.9	100.0	106.5	111.7	116.9	118.1	117.3	152.0
800	96.4	94.0	95.7	97.5	97.6	97.5	99.4	102.0	107.5	112.5	117.4	117.9	117.8	152.4
1000	115.7	107.5	107.5	111.1	107.4	107.0	105.6	102.8	107.0	113.5	119.9	126.1	126.5	159.0
1250	107.0	106.8	104.8	104.5	103.7	104.1	104.2	102.6	106.6	111.0	115.5	118.2	119.0	152.7
1600	110.5	109.2	110.1	109.3	106.7	103.3	103.2	103.2	105.3	109.7	114.0	117.5	118.5	152.8
2000	111.0	109.4	111.6	112.7	116.0	115.4	108.4	103.7	105.1	109.0	112.9	117.4	117.2	154.9
2500	108.2	108.5	108.3	109.6	110.9	111.1	109.0	105.6	105.2	108.4	111.5	116.3	115.1	152.5
3150	106.6	107.4	107.9	108.5	108.3	108.4	110.0	107.2	104.5	107.7	110.9	114.3	113.0	151.3
4000	104.5	104.7	105.8	107.2	107.7	106.9	107.0	108.1	103.2	106.2	109.2	111.7	111.2	149.7
5000	103.5	104.5	105.4	105.8	106.1	106.0	106.2	106.7	103.0	106.1	109.2	110.5	109.5	149.0
6300	102.2	103.0	104.1	105.1	105.7	105.0	105.7	105.7	102.7	105.0	107.3	108.6	107.4	148.0
8000	100.3	102.6	103.4	104.6	104.1	104.4	104.3	104.4	101.1	103.0	105.0	106.7	105.6	147.1
10000	98.8	101.2	103.0	104.3	104.5	104.7	104.2	103.9	100.1	102.1	104.1	105.4	103.7	147.1
12500	97.6	98.4	100.5	103.2	102.8	103.6	102.4	102.8	97.6	99.9	102.3	104.1	102.4	146.4
16000	93.8	97.7	97.9	101.7	101.6	101.6	101.4	101.7	96.0	98.3	100.5	101.4	99.9	146.1
20000	92.5	94.8	95.4	99.2	99.3	99.9	100.9	99.5	93.3	95.9	98.5	99.8	98.0	145.9
25000	89.6	92.9	92.7	97.6	98.3	99.7	99.3	98.8	92.2	94.1	96.0	96.1	94.6	146.8
31500	84.0	88.1	87.4	93.8	93.4	94.5	94.0	93.3	87.1	89.4	91.6	92.2	89.2	145.1
40000	81.1	86.3	84.8	90.7	90.8	91.9	91.5	91.3	84.1	86.7	89.3	90.0	87.1	146.5
50000	77.7	84.1	81.4	87.6	88.0	89.8	89.5	87.2	81.1	84.0	86.9	88.0	83.4	148.1
63000	74.4	82.0	78.3	83.9	84.9	86.8	84.5	84.4	77.0	81.2	85.3	85.5	79.3	150.3
80000	69.5	80.3	77.6	79.4	80.5	82.4	79.5	79.5	71.0	76.1	81.2	81.4	75.7	153.0

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CASPL 119.4 117.4 118.1 119.3 119.9 119.6 118.3 116.9 117.1 121.5 126.3 130.0 130.1 165.4  
PNL 130.1 129.8 130.6 131.7 133.2 132.8 131.8 130.3 129.0 132.6 136.4 139.9 140.0  
PNLT 134.8 132.2 133.0 135.0 135.7 135.5 133.4 130.3 129.0 132.6 137.5 142.6 142.7  
DBA 119.9 117.9 118.6 119.6 120.5 120.1 118.1 116.5 116.6 121.0 125.7 129.6 129.7

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH292	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
1APLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 69.00	PAMB HG = 29.30	RELHUM = 90.4 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM	XNH =	RPM	V8 = 1786.7 FPS
FNRAMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = 1695.7 FPS
					AE8 = 3.4 SQ IN
					AE18 = 18.0 SQ IN
RUNPT = 82F-ZER-1123	TAPE = X1123C	TEST PT NO = 1123	NC = AE063	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1123 XT123F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.8	86.3	86.1	85.6	86.0	84.1	84.2	83.6	81.8	84.8	87.8	94.0	94.1	129.1
63	91.9	94.7	91.7	91.8	93.1	91.0	92.1	92.0	85.7	88.2	90.7	98.4	99.0	135.0
80	86.9	90.7	87.0	88.8	88.4	90.0	91.1	89.5	88.2	90.1	91.9	94.1	96.8	132.5
100	86.7	91.3	87.5	90.3	90.7	90.8	91.9	93.3	89.8	93.1	96.5	99.4	101.8	135.7
125	85.2	86.9	89.2	90.9	91.6	91.5	92.1	92.2	90.7	95.3	99.9	103.6	105.8	138.2
160	85.2	83.7	88.2	88.1	89.1	89.0	95.4	90.0	91.2	96.1	100.9	104.9	108.3	139.6
200	86.3	88.1	88.1	89.7	90.3	91.4	94.5	94.7	93.4	98.1	102.8	107.3	110.2	141.6
250	85.0	91.3	89.3	89.6	90.5	92.6	95.0	95.6	98.3	103.4	108.5	112.0	113.4	145.6
315	88.1	90.2	89.9	92.9	94.1	94.4	97.8	97.5	100.4	105.4	110.4	113.8	115.0	147.4
400	87.5	91.0	92.0	92.2	93.2	93.8	107.7	98.1	104.3	108.9	113.5	116.7	116.6	150.3
500	90.0	92.5	92.1	93.3	93.7	95.3	98.2	99.1	105.8	110.9	116.0	117.9	117.1	151.5
630	90.2	93.0	94.0	95.3	95.4	96.2	97.9	100.0	106.5	111.7	116.9	118.1	117.3	152.0
800	96.4	94.0	95.7	97.5	97.6	97.5	99.4	102.0	107.5	112.5	117.4	117.9	117.8	152.4
1000	115.7	107.5	107.5	111.1	107.4	107.0	105.6	102.8	107.0	113.5	119.9	126.1	126.5	159.0
1250	107.0	106.8	104.8	104.5	103.7	104.1	104.2	102.6	106.6	111.0	115.5	118.2	119.0	152.7
1600	110.5	109.2	110.1	109.3	106.7	103.3	103.2	103.2	105.3	109.7	114.0	117.5	118.5	152.8
2000	111.0	109.4	111.6	112.7	116.0	115.4	108.4	103.7	105.1	109.0	112.9	117.4	117.2	154.9
2500	108.2	108.5	108.3	109.6	110.9	111.1	109.0	105.6	105.2	108.4	111.5	116.3	115.1	152.5
3150	106.6	107.4	107.9	108.5	108.3	108.4	110.0	107.2	104.5	107.7	110.9	114.3	113.0	151.3
4000	104.5	104.7	105.8	107.2	107.7	106.9	107.0	108.1	103.2	106.2	109.2	111.7	111.2	149.7
5000	103.5	104.5	105.4	105.8	106.1	106.0	106.2	106.7	103.0	106.1	109.2	110.5	109.5	149.0
6300	102.2	103.0	104.1	105.1	105.7	105.0	105.7	105.7	102.7	105.0	107.3	108.6	107.4	148.0
8000	100.3	102.6	103.4	104.6	104.1	104.4	104.3	104.4	101.1	103.0	105.0	106.7	105.6	147.1
10000	98.8	101.2	103.0	104.3	104.5	104.7	104.2	103.9	100.1	102.1	104.1	105.4	103.7	147.1
12500	97.6	98.4	100.5	103.2	102.8	103.6	102.4	102.8	97.6	99.9	102.3	104.1	102.4	146.4
16000	93.8	97.7	97.9	101.7	101.6	101.6	101.4	101.7	96.0	98.3	100.5	101.4	99.9	146.1
20000	92.5	94.8	95.4	99.2	99.3	99.9	100.9	99.5	93.3	95.9	98.5	99.8	98.0	145.9
25000	89.6	92.9	92.7	97.6	98.3	99.7	99.3	98.8	92.2	94.1	96.0	96.1	94.6	146.8
31500	84.0	88.1	87.4	93.8	93.4	94.5	94.0	93.3	87.1	89.4	81.6	92.2	89.2	145.1
40000	81.1	86.3	84.8	90.7	90.8	91.9	91.5	91.3	84.1	86.7	89.3	90.0	87.1	146.5
50000	77.7	84.1	81.4	87.6	88.0	89.8	88.5	87.2	81.1	84.0	86.9	88.0	83.4	148.1
63000	74.4	82.0	78.3	83.9	84.9	86.8	84.5	84.4	77.0	81.2	85.3	85.5	79.3	150.3
80000	69.5	80.3	77.6	79.4	80.5	82.4	79.5	79.5	71.0	76.1	81.2	81.4	75.7	153.0
OASPL	119.4	117.4	118.1	119.3	119.9	119.6	118.3	116.9	117.1	121.5	126.3	130.0	130.1	165.4
PNL	130.1	129.8	130.6	131.7	133.2	132.8	131.8	130.3	129.0	132.6	136.4	139.9	140.0	
PNLT	134.8	132.2	133.0	135.0	135.7	135.5	133.4	130.3	129.0	132.6	137.5	142.6	142.7	
DBA	191.0	201.0	198.2	200.8	201.8	203.7	201.0	200.9	192.8	197.6	202.3	202.6	196.9	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH292	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 69.00	PAMB HG = 29.30	RELHUM = 90.4 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1786.7 FPS	AE8 =	3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1695.7 FPS	AE18 =	18.0 SQ IN

RUNPT = 82F-ZER-1123 TAPE = XT123F TEST PT NO = 1123 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-1123 XT1231

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.2	71.2	73.3	74.2	75.6	76.3	90.1	80.1	85.6	89.1	92.2	93.2	89.7	168.5
63	68.7	72.7	73.3	75.3	76.1	77.8	80.6	81.1	87.1	91.1	94.7	94.4	90.2	169.6
80	68.8	73.1	75.2	77.3	77.7	78.7	80.2	82.0	87.7	91.9	95.5	94.5	90.3	170.1
100	75.0	74.1	76.9	79.4	80.0	80.0	81.7	83.9	88.7	92.6	96.0	94.2	90.6	170.5
125	94.1	87.5	88.6	93.0	89.6	89.4	87.9	84.6	88.1	93.5	98.4	102.3	99.1	177.1
160	85.2	86.6	85.8	86.2	85.8	86.3	86.3	84.3	87.5	90.9	93.7	94.1	91.2	170.8
200	88.5	88.8	90.9	90.9	88.7	85.5	85.1	84.8	86.1	89.3	92.0	93.0	90.2	170.9
250	88.7	88.8	92.1	94.1	97.8	97.3	90.2	85.0	85.6	88.3	90.5	92.6	88.3	173.1
315	85.5	87.5	88.6	90.7	92.5	92.7	90.5	86.7	85.5	87.4	88.8	90.9	85.4	170.6
400	83.3	86.0	87.8	89.2	89.5	89.7	91.2	87.9	84.4	86.3	87.6	88.2	82.4	169.4
500	80.8	82.9	85.4	87.6	88.6	88.0	88.0	88.5	82.8	84.4	85.4	85.0	79.6	167.9
630	79.3	82.3	84.6	85.9	86.7	86.9	86.8	86.9	82.2	83.9	84.9	83.1	76.8	167.1
800	77.5	80.4	83.0	85.0	86.2	85.5	86.2	85.5	81.6	82.5	82.6	80.5	73.5	166.2
1000	75.1	79.8	82.1	84.3	84.4	84.9	84.6	84.1	79.8	80.2	79.8	78.0	70.6	165.2
1250	73.1	78.0	81.4	83.8	84.6	85.1	84.4	83.5	78.5	78.9	78.5	75.8	67.2	165.3
1600	71.1	74.7	78.6	82.4	82.7	83.7	82.3	82.0	75.7	76.2	75.7	73.2	63.6	164.5
2000	66.3	73.3	75.5	80.6	81.3	81.5	81.1	80.7	73.7	73.9	73.0	68.8	58.1	164.2
2500	63.2	69.2	72.2	77.5	78.5	79.3	80.1	77.8	70.1	70.3	69.2	64.4	51.2	164.1
3150	56.9	64.9	67.6	74.3	76.1	77.7	77.1	75.5	67.1	66.1	63.4	55.8	39.5	164.9
4000	45.1	55.3	58.5	67.3	68.2	69.7	68.8	66.8	58.2	56.6	52.7	42.9	19.6	163.2
5000	32.5	46.0	49.6	58.7	60.6	62.2	61.3	59.4	48.9	46.4	40.6	27.0		164.6
6300	11.2	29.6	34.2	44.8	47.7	50.3	48.2	44.5	33.9	29.5	20.5	0.9		166.2
8000		2.7	9.7	21.9	26.4	29.5	26.0	22.4	8.4	1.8				168.5
10000														171.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
8ASPL	97.2	96.3	98.2	100.2	101.3	101.1	99.4	97.3	97.5	100.9	104.2	105.6	102.1	183.4
PNL	99.8	100.8	103.5	106.1	107.9	107.8	106.2	104.2	101.2	103.5	106.1	107.3	102.9	
PNLT	102.1	102.0	104.7	107.8	109.1	109.2	106.8	104.2	101.8	104.1	106.7	108.6	104.3	
DBA	88.0	90.0	92.4	94.6	95.8	95.8	94.8	93.7	89.6	91.2	92.5	93.1	88.6	

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH292 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.30 RELHUM = 90.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1786.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1695.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-1123 TAPE = X11231 TEST PT NO = 1123 NC = AE063 CORR FAN SPEED = RPM

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1125 X1125C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	87.8	85.6	86.4	86.2	85.1	85.5	81.9	83.6	86.1	88.5	94.2	95.1	129.7
63	84.9	93.7	91.5	92.6	93.9	91.7	93.4	91.8	88.0	89.5	90.9	98.4	98.8	135.0
80	86.2	91.0	87.7	89.0	88.4	89.7	91.4	89.8	87.7	89.6	91.4	94.6	96.8	132.6
100	87.2	92.0	87.5	91.1	91.4	91.3	91.9	92.8	89.0	92.5	96.0	99.4	102.1	135.7
125	85.2	86.7	89.0	91.2	91.8	92.0	92.3	92.7	90.7	95.2	99.7	103.6	105.8	138.3
160	85.2	82.7	88.0	88.1	89.4	89.0	94.6	90.3	90.7	95.6	100.4	104.1	107.3	138.8
200	86.3	87.1	87.6	89.9	90.3	91.6	94.8	94.7	93.6	98.2	102.8	107.0	110.2	141.5
250	85.5	91.3	89.3	90.4	90.7	92.8	95.5	96.1	98.3	103.3	108.3	111.7	113.4	145.5
315	87.9	90.7	90.4	93.1	93.8	94.7	98.3	97.7	100.9	105.7	110.4	114.3	115.5	147.8
400	88.0	91.5	92.0	92.7	93.7	94.8	107.7	98.8	105.0	109.8	114.5	117.2	116.8	150.9
500	90.5	92.3	92.8	94.0	94.7	96.0	98.4	99.1	106.8	111.9	117.0	119.2	117.6	152.5
630	91.2	93.2	94.2	95.3	96.1	97.0	98.1	100.0	107.2	112.4	117.7	119.4	117.8	152.9
800	95.9	96.5	96.7	98.0	97.4	97.7	99.6	102.0	108.2	112.8	117.4	118.9	117.5	152.7
1000	113.4	112.7	108.5	110.4	105.4	105.5	105.4	103.3	107.5	112.7	117.9	122.6	123.0	156.4
1250	107.8	108.5	105.6	105.5	103.9	104.1	104.7	103.9	106.8	111.3	115.8	118.4	119.2	153.1
1600	110.0	109.2	110.3	110.1	107.5	104.3	103.7	104.0	105.6	110.1	114.5	119.0	119.5	153.6
2000	110.5	109.2	110.3	112.0	114.3	113.9	109.1	104.5	105.3	109.2	113.1	118.2	117.5	154.5
2500	108.7	108.5	108.6	109.1	110.2	110.6	109.2	106.8	106.2	109.1	112.0	116.6	115.3	152.6
3150	106.4	107.7	108.2	108.5	107.3	108.1	110.0	107.5	105.5	108.5	111.4	115.3	113.3	151.6
4000	104.5	104.9	106.3	107.2	107.4	106.9	107.3	108.8	104.7	107.1	109.4	113.0	111.2	150.2
5000	103.5	104.5	105.6	106.3	106.3	106.5	106.4	107.2	104.0	106.6	109.2	111.7	109.2	149.4
6300	102.2	103.2	104.3	105.6	106.2	105.2	106.2	106.2	103.7	105.9	108.1	109.6	107.4	148.6
8000	100.5	102.6	103.7	104.9	104.3	104.9	104.8	105.4	102.1	104.0	106.0	107.7	105.1	147.6
10000	98.8	101.2	103.2	104.3	104.5	104.7	104.5	104.9	101.3	102.8	104.4	106.9	104.2	147.5
12500	97.1	98.4	101.0	103.2	102.8	103.8	103.1	103.6	99.6	101.2	102.8	105.6	102.4	146.9
16000	94.8	97.9	98.1	101.7	101.6	101.8	102.4	101.7	97.2	99.1	101.0	103.4	100.4	146.5
20000	92.7	95.3	96.2	99.5	100.1	100.9	101.2	99.8	95.1	96.9	98.8	101.1	99.0	146.5
25000	90.1	93.7	93.5	97.8	98.5	99.7	99.8	99.0	93.7	95.5	97.3	97.9	93.9	147.3
31500	83.8	88.6	88.4	93.8	93.4	95.0	94.3	94.6	88.4	90.5	92.6	92.9	87.9	145.6
40000	81.4	85.8	85.0	90.2	90.8	92.1	92.0	91.8	86.1	88.1	90.1	91.2	85.1	146.9
50000	78.2	83.3	81.9	87.1	88.0	89.3	88.7	88.5	82.6	85.5	88.4	88.7	82.4	148.4
63000	74.4	82.3	79.0	83.4	84.6	86.0	84.4	86.2	78.2	82.3	86.3	86.5	78.0	150.6
80000	69.5	81.3	76.8	78.9	80.0	82.7	80.0	80.2	72.7	78.6	84.4	82.2	73.7	153.7

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CASPL 118.6 118.5 118.2 119.2 119.1 119.0 118.6 117.5 117.8 121.9 126.3 129.5 129.2 165.3  
PNL 129.8 130.2 130.6 131.4 132.3 132.1 132.0 131.0 129.8 133.2 136.7 140.3 139.5  
PNLT 133.7 133.6 133.0 134.3 134.1 134.2 133.5 131.0 129.8 133.2 136.7 141.6 141.0  
DBA 119.1 118.9 118.7 119.5 119.6 119.3 118.4 117.2 117.3 121.3 125.6 129.0 128.6

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH293	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLYVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 69.00	PAMB HQ = 29.35	RELHUM = 90.3 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS XNL	= RPM	XNH = RPM	V8 = 1689.5 FPS	AE8 = 3.4 SQ IN	
FNRAMB = LBS XNLR	= RPM	XNHR = RPM	V18 = 1797.3 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-1125	TAPE = X1125C	TEST PT NO = 1125	NC = AE063	CORR FAN SPEED =	RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1125 XT125F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	87.8	85.6	86.4	86.2	85.1	85.5	81.9	83.6	86.1	88.5	94.2	95.1	129.7
63	84.9	93.7	91.5	92.6	93.9	91.7	93.4	91.8	88.0	89.5	90.9	98.4	98.8	135.0
80	85.9	91.0	87.7	89.0	88.4	89.7	91.4	89.8	87.7	89.6	91.4	94.6	96.8	132.6
100	87.2	92.0	87.5	91.1	91.4	91.3	91.9	92.8	89.0	92.5	96.0	99.4	102.1	135.7
125	85.2	86.7	89.0	91.2	91.8	92.0	92.3	92.7	90.7	95.2	99.7	103.6	105.8	138.3
160	85.2	82.7	88.0	88.1	89.4	89.0	94.6	90.3	90.7	95.6	100.4	104.1	107.3	138.8
200	86.3	87.1	87.6	89.9	90.3	91.6	94.8	94.7	93.6	98.2	102.8	107.0	110.2	141.5
250	85.5	91.3	89.3	90.4	90.7	92.8	95.5	96.1	98.3	103.3	108.3	111.7	113.4	145.5
315	87.9	90.7	90.4	93.1	93.8	94.7	98.3	97.7	100.9	105.7	110.4	114.3	115.5	147.8
400	88.0	91.5	92.0	92.7	93.7	94.8	107.7	98.8	105.0	109.8	114.5	117.2	116.8	150.9
500	90.5	92.3	92.8	94.0	94.7	96.0	98.4	99.1	106.8	111.9	117.0	119.2	117.6	152.5
630	91.2	93.2	94.2	95.3	96.1	97.0	98.1	100.0	107.2	112.4	117.7	119.4	117.8	152.9
800	95.9	96.5	96.7	98.0	97.4	97.7	99.6	102.0	108.2	112.8	117.4	118.9	117.5	152.7
1000	113.4	112.7	108.5	110.4	105.4	105.5	105.4	103.3	107.5	112.7	117.9	122.6	123.0	156.4
1250	107.8	108.5	105.6	105.5	103.9	104.1	104.7	103.9	106.8	111.3	115.8	118.4	119.2	153.1
1600	110.0	109.2	110.3	110.1	107.5	104.3	103.7	104.0	105.6	110.1	114.5	119.0	119.5	153.6
2000	110.5	109.2	110.3	112.0	114.3	113.9	109.1	104.5	105.3	109.2	113.1	118.2	117.5	154.5
2500	108.7	108.5	108.6	109.1	110.2	110.6	109.2	106.8	106.2	109.1	112.0	116.6	115.3	152.6
3150	106.4	107.7	108.2	108.5	107.3	108.1	110.0	107.5	105.5	108.5	111.4	115.3	113.3	151.6
4000	104.5	104.9	106.3	107.2	107.4	106.9	107.3	108.8	104.7	107.1	109.4	113.0	111.2	150.2
5000	103.5	104.5	105.6	106.3	106.3	106.5	106.4	107.2	104.0	106.6	109.2	111.7	109.2	149.4
6300	102.2	103.2	104.3	105.6	106.2	105.2	106.2	106.2	103.7	105.9	108.1	109.6	107.4	148.6
8000	100.5	102.6	103.7	104.9	104.3	104.9	104.8	105.4	102.1	104.0	106.0	107.7	105.1	147.6
10000	98.8	101.2	103.2	104.3	104.5	104.7	104.5	104.9	101.3	102.8	104.4	106.9	104.2	147.5
12500	97.1	98.4	101.0	103.2	102.8	103.8	103.1	103.6	99.6	101.2	102.8	105.6	102.4	146.9
16000	94.8	97.9	98.1	101.7	101.6	101.8	102.4	101.7	97.2	99.1	101.0	103.4	100.4	146.5
20000	92.7	95.3	96.2	99.5	100.1	100.9	101.2	99.8	95.1	96.9	98.8	101.1	99.0	146.5
25000	90.1	93.7	93.5	97.8	98.5	99.7	99.8	99.0	93.7	95.5	97.3	97.9	93.9	147.3
31500	83.8	88.6	88.4	93.8	93.4	95.0	94.3	94.6	88.4	90.5	92.6	92.9	87.9	145.6
40000	81.4	85.8	85.0	90.2	90.8	92.1	92.0	91.8	86.1	88.1	80.1	91.2	85.1	146.9
50000	78.2	83.3	81.9	87.1	88.0	89.3	88.7	88.5	82.6	85.5	88.4	88.7	82.4	148.4
63000	74.4	82.3	79.0	83.4	84.6	86.0	84.4	86.2	78.2	82.3	86.3	86.5	78.0	150.6
80000	69.5	81.3	76.8	78.9	80.0	82.7	80.0	80.2	72.7	78.6	84.4	82.2	73.7	153.7
GASPL	118.5	118.5	118.2	119.2	119.1	119.0	118.6	117.5	117.8	121.9	126.3	129.5	129.2	165.3
PNL	129.8	130.2	130.6	131.4	132.3	132.1	132.0	131.0	129.8	133.2	136.7	140.3	139.5	
PNLT	133.7	133.6	133.0	134.3	134.1	134.2	133.5	131.0	129.8	133.2	136.7	141.6	141.0	
DBA	191.0	201.9	197.6	200.3	201.4	203.7	201.4	201.9	194.4	199.7	205.2	203.4	195.1	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH293	TEST DATE = 08-27-82	LOCAT = C41 ANECH CH	CONFIG = 1	MODEL = AX	FLTVEL = 0. FPS
JAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 69.00	PAMB HG = 29.35	RELHUM = 90.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM XNH =	RPM	V8 = 1689.5 FPS	AE8 = 3.4 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM	V18 = 1797.3 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1125 TAPE = XT125F TEST PT NO = 1125 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1125 X11251

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.7	71.7	73.3	74.7	76.1	77.3	90.1	80.8	86.3	90.0	83.2	93.7	90.0	169.0
63	69.2	72.5	74.1	76.0	77.1	78.6	80.8	81.1	88.1	92.1	95.7	95.6	90.7	170.6
80	69.8	73.4	75.5	77.3	78.5	79.5	80.5	82.0	88.5	92.6	96.3	95.7	90.8	171.0
100	74.5	76.6	77.9	79.9	79.7	80.2	82.0	83.9	89.4	92.9	96.0	95.2	90.4	170.9
125	91.9	92.7	89.6	92.2	87.6	87.9	87.6	85.1	88.6	92.7	96.4	98.8	95.6	174.5
160	86.0	88.4	86.5	87.2	86.1	86.3	86.8	85.6	87.8	91.1	94.0	94.3	91.5	171.2
200	88.0	88.8	91.1	91.6	89.4	86.5	85.6	85.5	86.4	89.7	92.5	94.5	91.2	171.7
250	88.2	88.5	90.9	93.3	96.1	95.8	90.9	85.8	85.9	88.6	90.8	93.3	88.6	172.6
315	86.0	87.5	88.8	90.2	91.7	92.2	90.8	87.9	86.5	88.1	89.3	91.2	85.7	170.8
400	83.1	86.3	88.1	89.2	88.5	89.5	91.2	88.2	85.4	87.1	88.1	89.2	82.6	169.7
500	80.8	83.2	85.9	87.6	88.4	88.0	88.2	89.3	84.3	85.3	85.7	86.3	79.6	168.3
630	79.3	82.3	84.9	86.4	87.0	87.4	87.1	87.4	83.2	84.4	84.9	84.3	76.5	167.5
800	77.5	80.7	83.2	85.5	86.7	85.8	86.7	86.0	82.6	83.3	83.4	81.5	73.5	166.7
1000	75.4	79.8	82.4	84.6	84.6	85.4	85.1	85.1	80.8	81.2	80.8	79.0	70.1	165.8
1250	73.1	78.0	81.7	83.8	84.6	85.1	84.6	84.5	79.8	79.7	78.7	77.3	67.7	165.7
1600	70.6	74.7	79.1	82.4	82.7	83.9	83.0	82.8	77.7	77.4	76.2	74.7	63.6	165.0
2000	67.3	73.6	75.8	80.6	81.3	81.8	82.1	80.7	74.9	74.8	73.5	70.8	58.6	164.7
2500	63.4	69.7	73.0	77.8	79.2	80.3	80.3	78.1	71.9	71.3	69.5	65.7	52.2	164.7
3150	57.1	65.7	68.4	74.6	76.3	77.7	77.6	75.8	68.6	67.5	64.6	57.5	38.8	165.4
4000	44.9	55.8	59.5	67.3	68.2	70.2	69.1	68.0	59.5	57.7	53.7	43.6	18.3	163.7
5000	32.7	45.5	49.9	58.2	60.5	62.5	61.7	59.9	50.9	47.7	41.4	28.2		165.0
6300	11.7	28.8	34.7	44.3	47.7	49.8	48.4	45.7	35.4	31.0	22.0	1.6		166.5
8000		2.9	10.5	21.4	26.2	28.7	26.0	24.2	9.7	2.9				168.8
10000														171.8
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OF POOR QUALITY

BASPL	96.2	97.7	98.3	100.1	100.4	100.4	99.7	97.9	98.2	101.3	104.2	105.0	100.9	183.2
PNL	98.9	101.3	103.3	105.9	107.1	107.3	106.4	104.9	102.2	103.9	105.7	106.4	101.4	
PNLT	100.9	103.0	104.5	107.3	108.0	108.4	107.0	104.9	102.8	104.5	105.7	107.6	102.2	
DBA	87.8	90.3	92.5	94.6	95.4	95.7	95.2	94.4	90.6	91.8	92.8	93.4	88.1	

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH293 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1689.5 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1797.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1125 TAPE = X11251 TEST PT NO = 1125 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1126 X1126C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.5	86.1	84.8	83.4	86.0	82.3	83.0	84.4	80.8	86.9	90.0	89.5	100.1	130.6
63	94.4	94.7	90.2	90.8	94.1	89.7	89.9	88.3	86.5	92.5	91.4	91.6	99.8	134.4
80	87.4	91.7	87.2	88.8	88.4	90.0	91.1	90.3	87.7	94.1	91.7	94.6	101.8	134.1
100	87.5	91.8	87.5	89.6	90.2	90.0	90.9	92.3	87.5	94.3	95.0	99.2	103.3	135.7
125	84.2	86.9	88.2	90.2	90.1	90.2	91.3	90.7	88.2	93.8	97.7	101.8	105.5	137.1
160	83.9	81.2	86.5	86.6	86.9	86.0	91.6	87.3	88.7	91.0	98.9	102.6	106.8	137.5
200	84.8	84.9	85.4	84.9	86.5	87.4	91.0	90.4	89.6	96.0	98.8	104.0	107.9	138.7
250	81.5	85.8	83.8	85.9	86.2	87.6	90.7	92.1	94.1	96.4	104.5	108.2	109.1	141.5
315	82.4	84.2	84.9	87.6	87.8	89.2	94.1	92.5	96.7	98.0	106.4	110.3	110.5	143.3
400	82.7	85.0	86.0	87.2	87.9	88.5	93.9	92.8	99.3	99.4	109.2	112.4	108.8	144.9
500	83.7	85.8	86.1	88.3	88.7	90.1	92.7	93.6	101.1	99.6	111.8	112.7	106.6	145.6
630	84.4	86.5	87.5	88.4	89.6	90.7	92.4	94.5	102.2	100.8	112.7	112.4	102.0	145.8
800	92.2	96.0	98.8	93.7	98.1	93.5	98.1	96.8	103.0	102.8	113.2	109.9	98.8	146.0
1000	101.9	98.7	97.0	96.1	93.9	93.0	94.6	97.0	102.2	103.3	111.4	107.6	97.5	144.7
1250	110.5	111.1	108.3	105.0	98.5	96.3	97.5	97.9	102.6	104.2	110.0	104.7	98.0	148.0
1600	110.0	112.2	113.6	113.8	111.5	103.8	99.9	98.7	101.4	104.9	108.6	102.5	98.0	151.5
2000	106.0	107.4	110.1	112.0	113.1	111.4	105.4	100.5	100.6	105.1	106.1	100.5	96.2	150.8
2500	107.0	107.0	106.3	107.4	109.7	111.3	111.0	104.6	101.7	106.8	104.5	99.1	95.6	149.9
3150	104.6	105.7	107.4	107.5	105.8	106.1	109.5	107.2	101.5	107.6	103.6	97.3	94.1	148.6
4000	103.1	103.7	104.8	106.2	107.2	105.2	104.8	107.6	101.0	110.2	102.4	97.2	93.5	147.9
5000	102.3	103.3	104.7	106.3	105.4	105.3	105.0	105.5	101.8	112.4	103.0	97.0	93.5	148.2
6300	101.2	102.3	103.6	104.4	104.8	103.8	104.0	104.5	102.2	110.6	102.2	96.4	92.4	147.2
8000	99.9	101.7	102.8	103.7	103.2	103.5	102.9	103.5	100.7	108.8	101.6	94.8	91.7	146.4
10000	98.6	100.8	102.1	103.1	102.9	103.6	102.9	102.8	99.2	107.8	100.0	95.5	90.8	146.3
12500	96.8	98.4	100.2	102.4	101.6	102.3	101.9	101.8	96.3	105.8	98.2	94.1	90.1	145.6
16000	94.4	97.0	98.2	100.2	100.7	100.6	101.0	100.8	94.5	104.4	97.1	93.2	88.5	145.6
20000	92.2	94.3	96.0	98.2	98.6	99.3	99.7	98.8	92.9	102.9	96.0	92.0	87.7	145.6
25000	89.2	92.2	95.5	96.3	97.0	97.8	98.2	97.3	92.0	102.2	94.0	90.5	86.0	146.6
31500	83.4	87.2	93.0	92.3	91.9	93.0	92.7	92.6	86.5	97.8	89.9	86.1	79.8	145.2
40000	79.6	84.9	95.4	88.5	89.5	90.4	90.5	90.4	82.5	95.8	86.4	82.7	76.5	147.6
50000	75.9	82.5	98.1	85.1	85.5	87.3	86.5	86.5	78.0	93.3	82.6	78.9	72.6	151.2
63000	72.6	82.1	100.6	81.1	81.5	83.6	82.3	82.8	72.8	91.8	79.3	74.3	67.3	157.6
80000	69.2	80.9	101.0	76.5	76.7	79.9	76.5	76.7	65.7	88.8	74.0	67.3	58.8	164.2

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OASPL 116.4 117.5 118.4 118.7 118.4 117.3 116.7 115.3 113.7 119.7 120.9 120.1 117.6 166.6  
PNL 128.0 129.1 130.1 130.5 130.9 130.5 130.5 128.8 126.0 133.0 130.5 128.3 125.2  
PNLT 129.5 132.2 132.7 132.9 133.1 131.8 132.0 128.8 126.0 133.0 130.5 128.3 125.2  
DBA 117.0 118.1 118.8 119.3 119.0 117.7 116.9 115.1 113.2 119.3 119.8 117.3 111.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VERTCL = ADH313 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1704.3 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1822.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1126 TAPE = X1126C TEST PT NO = 1126 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1126 XT1126F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.0	91.2	88.1	88.7	87.6	87.6	88.8	88.5	93.2	93.6	101.5	105.9	107.9	139.6
315	88.0	91.2	88.1	88.7	89.6	89.4	92.7	89.7	96.0	95.3	104.8	108.7	107.7	141.5
400	90.1	90.5	89.9	91.0	89.7	88.8	98.6	90.1	98.9	96.7	108.5	110.6	107.8	143.6
500	90.3	91.3	90.9	90.6	90.6	90.4	91.9	91.6	101.1	99.3	111.4	113.1	107.2	145.7
630	91.4	92.2	91.0	91.8	91.6	91.1	91.7	93.0	101.8	101.4	112.3	111.8	106.8	145.7
800	92.1	92.9	92.5	91.9	100.2	94.0	97.4	95.0	101.9	102.9	111.7	111.2	108.3	145.8
1000	101.8	103.8	104.6	97.6	95.8	93.6	94.2	95.6	102.5	103.9	110.4	108.3	108.7	145.7
1250	109.5	105.1	101.9	99.6	100.5	97.1	97.2	96.7	101.6	104.8	108.8	105.8	108.3	146.1
1600	118.1	117.5	113.4	108.5	114.0	104.9	100.3	98.2	99.7	103.8	105.2	102.6	105.4	153.7
2000	119.9	120.4	119.9	118.1	115.7	112.7	105.2	98.9	101.2	105.9	104.0	101.7	105.2	157.6
2500	113.7	114.0	115.4	116.0	112.6	112.9	111.1	103.4	104.3	110.7	107.6	104.7	108.7	154.5
3150	114.6	113.6	111.8	111.6	108.8	108.1	111.1	108.4	102.5	111.2	104.0	102.2	106.1	152.6
4000	110.3	110.9	112.0	111.3	110.9	107.7	106.5	108.2	102.7	112.8	103.7	100.7	104.2	151.8
5000	110.6	110.4	110.6	110.9	109.4	108.3	106.7	105.8	103.3	111.1	103.0	100.3	103.2	151.1
6300	109.8	110.0	110.5	110.2	108.8	106.8	105.8	104.7	102.1	109.6	102.8	99.1	103.2	150.6
8000	108.5	108.9	109.3	109.1	107.2	106.5	104.8	103.9	101.2	109.4	102.1	101.0	104.1	150.1
10000	107.0	108.1	108.3	108.2	106.9	106.6	104.9	103.6	99.4	108.7	101.9	101.3	105.0	150.0
12500	105.5	107.0	107.3	107.4	105.6	105.3	104.2	103.2	98.2	107.8	101.2	100.9	103.9	149.8
16000	103.1	104.0	105.0	106.1	104.7	103.6	103.3	102.2	97.0	106.9	100.7	100.2	103.5	149.7
20000	100.3	102.2	102.5	103.6	102.6	102.3	102.0	100.2	96.4	106.3	98.9	99.0	102.3	149.8
25000	97.5	98.9	99.7	100.9	101.0	100.8	100.5	98.5	90.7	101.5	94.0	93.3	94.4	149.3
31500	93.7	96.0	98.4	98.2	96.4	96.0	94.6	93.1	87.4	100.2	91.1	90.4	91.2	149.0
40000	89.3	92.0	96.5	94.4	93.6	93.4	92.3	90.8	83.3	98.0	87.6	86.9	87.5	150.3
50000	82.9	87.5	97.1	89.2	89.6	90.3	88.3	86.9	78.9	97.4	85.2	83.2	83.1	152.7
63000	80.5	85.8	99.9	85.4	85.6	86.6	84.0	83.0	73.2	95.8	81.3	77.6	76.1	158.0
80000	76.0	84.1	101.1	80.0	80.9	82.9	78.1	76.9	63.3	86.0	71.5	67.8	66.3	164.4
CASPL	124.4	124.4	123.9	122.9	121.5	119.3	117.8	115.6	114.0	120.7	120.1	120.0	119.4	167.9
PNL	136.5	136.7	136.2	134.9	133.3	131.8	130.8	128.4	126.3	133.5	130.3	128.6	130.8	
PNLT	137.8	139.8	139.2	137.5	135.5	131.8	132.3	128.4	126.3	133.5	131.5	128.6	130.8	
DBA	197.3	204.8	221.5	201.6	202.4	204.0	199.9	198.7	187.2	209.2	195.0	191.6	190.4	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NAS 3DUAL FLOW SHOCK CELL/CGAN. DUAL CGNV/DFSC-1/NAS3-23166

VEHICLE = ADH313 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1704.3 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1822.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1126 TAPE = XT1126F TEST PT NO = 1126 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1126 X11261

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	68.8	70.8	71.2	73.0	72.2	71.3	81.0	72.1	80.2	76.9	87.2	87.1	81.0	161.8
63	69.0	71.5	72.2	72.6	73.0	72.9	74.3	73.6	82.3	79.5	80.1	89.5	80.3	163.8
80	70.0	72.4	72.3	73.7	73.9	73.6	74.1	74.9	83.1	81.6	90.9	88.2	79.8	163.8
100	70.6	73.0	73.7	73.8	82.6	76.5	79.7	76.9	83.1	83.0	90.2	87.5	81.1	163.9
125	80.2	83.8	85.7	79.5	78.0	76.0	76.4	77.5	83.6	83.9	88.8	84.5	81.3	163.8
160	87.7	84.9	82.9	81.3	82.6	79.4	79.4	78.4	82.6	84.7	87.1	81.7	80.5	164.2
200	96.1	97.1	94.2	90.1	96.0	87.0	82.3	79.7	80.5	83.4	83.2	78.2	77.2	171.8
250	97.6	99.7	100.4	99.5	97.5	94.6	87.0	80.2	81.8	85.2	81.7	76.8	76.4	175.7
315	90.9	93.0	95.7	97.1	94.1	94.6	92.6	84.4	84.6	89.7	84.8	79.3	79.0	172.6
400	91.4	92.2	91.7	92.3	90.0	89.5	92.3	89.2	82.4	89.9	80.7	76.1	75.5	170.8
500	86.6	89.2	91.6	91.7	91.8	88.8	87.5	88.7	82.3	91.0	79.9	74.0	72.5	170.0
630	86.4	88.3	89.8	91.0	90.1	89.2	87.4	85.9	82.5	89.0	78.7	72.9	70.5	169.3
800	85.0	87.5	89.4	90.1	89.3	87.4	86.2	84.6	81.0	87.1	79.0	71.0	69.4	168.7
1000	83.4	86.0	88.0	88.8	87.5	86.9	85.0	83.6	79.9	86.6	77.0	72.3	69.0	168.2
1250	81.3	84.9	86.8	87.8	87.0	87.0	85.1	83.2	77.9	85.5	76.2	71.7	68.5	168.1
1600	79.0	83.2	85.4	86.6	85.4	85.4	84.1	82.4	76.2	84.0	74.7	70.0	65.1	168.0
2000	75.6	79.7	82.6	85.1	84.4	83.6	83.0	81.2	74.7	82.5	73.2	67.7	61.6	167.9
2500	71.0	76.6	79.3	81.9	81.7	81.7	81.2	78.5	73.2	80.7	69.6	63.6	55.5	167.9
3150	64.8	70.9	74.6	77.7	78.8	78.9	78.3	75.3	65.6	73.5	61.3	53.0	39.3	167.4
4000	54.8	63.3	69.5	71.7	71.2	71.2	69.4	66.5	58.5	67.5	52.2	41.1	21.5	167.2
5000	40.6	51.7	61.4	62.5	63.3	63.7	62.1	58.8	48.2	57.7	38.9	23.9		168.4
6300	16.4	33.0	49.9	46.4	49.3	50.7	47.9	44.2	31.7	42.8	18.7			170.8
8000		6.5	31.4	23.4	27.2	29.3	25.6	21.1	4.6	16.4				176.1
10000			1.1											182.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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SASPL 101.7 103.4 103.9 103.6 102.8 100.5 98.7 95.8 94.0 98.7 98.0 95.3 89.9 186.1  
 PNL 106.2 108.6 109.9 109.9 109.0 107.4 106.1 103.4 99.6 105.8 99.9 95.7 91.9  
 PNLT 107.3 110.2 111.4 111.1 110.1 108.0 106.9 103.4 100.1 106.4 100.5 95.7 93.0  
 DBA 95.0 97.2 98.5 99.1 98.0 96.8 95.5 93.5 88.8 95.8 87.3 82.1 79.8

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH313 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
 ALPHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FN1N1 = LBS XNL = RPM XNH = RPM V8 = 1704.3 FPS AE8 = 3.4 SQ IN  
 FN1RB = LBS XNLR = RPM XNHR = RPM V18 = 1822.4 FPS AE18 = 18.0 SQ IN

R = 82F-400-1126 TAPE = X11261 TEST PT NO = 1126 NC = AE063 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1127 X1127C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.0	87.6	85.3	86.6	86.7	84.8	86.2	87.4	85.6	87.3	89.0	94.9	94.9	130.3
63	93.9	94.5	89.2	92.3	93.9	91.7	92.4	97.3	89.0	90.1	91.2	97.6	98.8	135.8
80	87.7	91.7	87.7	89.8	89.4	90.7	92.1	90.3	88.7	90.5	92.2	95.1	98.0	133.4
100	88.0	92.5	88.5	91.6	91.9	91.8	93.2	94.6	89.8	93.1	96.5	100.2	103.1	136.5
125	86.2	87.7	89.7	91.9	92.3	92.2	93.1	93.5	91.0	95.6	100.2	104.6	107.0	139.1
160	86.2	83.2	88.5	88.6	89.6	89.5	95.4	90.8	91.2	96.3	101.4	105.4	109.3	140.2
200	86.1	88.4	88.9	89.9	90.8	91.4	95.0	95.2	93.4	98.4	103.3	108.0	111.7	142.5
250	86.0	93.1	89.8	90.1	91.0	93.6	96.2	96.6	98.3	103.7	109.0	112.5	114.4	146.3
315	89.1	91.2	90.2	93.4	94.3	94.4	98.1	97.5	100.2	105.4	110.6	114.8	116.5	148.3
400	88.5	91.8	91.8	92.5	93.4	93.8	106.4	97.8	103.8	108.8	113.7	117.7	117.3	150.8
500	90.2	92.3	92.1	93.3	93.4	95.3	97.4	98.3	105.3	110.5	115.8	118.2	118.1	151.6
630	90.9	93.0	93.5	94.8	95.1	96.0	97.4	99.3	105.7	111.3	116.9	119.6	118.8	152.7
800	96.2	95.5	96.0	97.5	97.6	97.0	98.6	101.0	106.5	112.1	117.7	119.6	119.0	153.2
1000	110.7	107.2	103.5	106.9	104.9	103.5	102.4	101.8	106.5	111.6	116.7	121.4	121.5	154.7
1250	111.5	110.8	107.6	107.0	105.2	105.6	105.7	103.1	106.1	110.8	115.5	119.9	120.7	154.2
1600	112.5	112.2	112.8	112.6	109.7	104.6	104.2	104.0	105.1	109.7	114.3	119.7	120.7	154.8
2000	111.3	110.7	111.8	113.0	114.0	112.4	107.1	104.0	105.3	109.3	113.4	119.7	118.5	154.9
2500	109.7	109.7	109.3	110.4	111.4	112.3	111.0	106.8	106.2	109.4	112.5	118.1	115.6	153.7
3150	107.9	108.7	109.4	109.5	108.3	109.1	111.5	108.7	105.3	108.7	112.1	115.5	112.8	152.3
4000	106.0	105.9	107.6	108.9	108.7	107.6	107.5	110.1	104.7	107.7	110.7	113.7	111.0	151.1
5000	105.3	105.5	107.1	107.8	107.3	107.8	106.9	108.2	104.7	107.6	110.4	112.2	109.0	150.4
6300	103.2	104.5	106.3	106.8	107.0	107.0	107.0	107.4	104.4	106.5	108.6	110.1	107.1	149.5
8000	102.0	103.9	104.7	106.4	105.8	106.4	106.3	106.7	103.1	104.9	106.7	107.5	105.6	148.7
10000	100.5	102.7	104.2	105.8	105.5	106.5	105.7	106.2	102.3	103.8	105.4	107.1	104.4	148.7
12500	98.6	100.7	102.3	105.0	104.3	105.1	104.6	104.8	99.9	101.6	103.3	105.6	103.1	148.1
16000	96.3	98.9	99.1	103.7	103.1	103.1	103.1	103.2	97.5	99.5	101.5	103.4	101.2	147.6
20000	94.5	96.3	97.2	100.7	101.3	101.9	101.7	101.3	94.6	97.3	100.0	101.6	100.0	147.5
25000	91.6	94.9	95.0	98.8	100.0	100.9	100.0	100.0	94.0	95.6	97.3	98.4	95.9	148.2
31500	85.8	90.1	88.9	95.1	94.7	96.3	95.5	95.3	88.9	91.0	93.1	93.4	90.4	146.6
40000	82.6	87.8	86.8	91.9	92.3	93.1	93.0	93.1	86.6	88.7	90.8	92.5	87.6	148.1
50000	79.7	85.8	83.2	88.8	89.3	90.8	89.7	90.5	83.1	86.0	88.9	90.5	85.4	149.8
63000	76.1	83.5	81.0	85.9	85.8	87.8	86.4	88.2	79.5	83.4	87.3	88.5	82.0	152.4
80000	70.8	81.8	78.0	81.4	81.5	84.4	81.8	82.7	74.5	79.6	84.7	84.2	76.0	155.2
0ASPL	119.4	119.1	119.3	120.2	119.9	119.5	119.1	118.2	117.3	121.5	126.1	129.8	129.6	165.8
PNL	131.0	131.2	131.6	132.4	132.6	132.6	132.8	131.8	129.6	133.3	137.1	141.1	140.2	
PNLT	133.2	132.5	132.7	134.0	133.8	133.9	134.2	131.8	129.6	133.3	137.1	141.1	140.2	
DBA	120.1	119.7	119.9	120.6	120.3	119.7	118.9	117.8	116.9	121.0	125.4	129.5	129.1	
NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166														
VEHICLE	= ADH294		TEST DATE	= 08-27-82		LOCAT	= C41 ANECH CH		CONFIG	= 1		MODEL	= AX	
IAPLHA	= SB59		IEGA	= NO		PWL AREA	= FULL SPHERE		TAMB F	= 69.00		PAMB HG	= 29.35	
WIND DIR	=		WIND VEL	= MPH		EXT DIST	= 40.0 FT		EXT CONFIG	= ARC		MIKE HT	=	
FNINT	=		LBS XNL	=		RPM XNH	=		RPM V8	= 1691.9 FPS		AE8	= 3.4 SQ IN	
FNRAMB	=		LBS XNLR	=		RPM XNHR	=		RPM V18	= 1833.1 FPS		AE18	= 18.0 SQ IN	
RUNPT	= 82F-ZER-1127		TAPE	= X1127C		TEST PT NO	= 1127		PC	= AE063		CORR FAN SPEED	=	
													RPM	

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, '83 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-1127 XT127F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.0	87.6	85.3	86.6	86.7	84.8	86.2	87.4	85.6	87.3	89.0	94.0	94.9	130.3
63	93.9	94.5	89.2	92.3	93.9	91.7	92.4	97.3	89.0	90.1	91.2	97.6	98.8	135.8
80	87.7	91.7	87.7	89.8	89.4	90.7	92.1	90.3	88.7	90.5	92.2	95.1	98.0	133.4
100	88.0	92.5	88.5	91.6	91.9	91.8	93.2	94.6	89.8	93.1	96.5	100.2	103.1	136.5
125	86.2	87.7	89.7	91.9	92.3	92.2	93.1	93.5	91.0	95.6	100.2	104.6	107.0	139.1
160	86.2	83.2	88.5	88.6	89.6	89.5	95.4	90.8	91.2	96.3	101.4	105.4	109.3	140.2
200	86.1	88.4	88.9	89.9	90.8	91.4	95.0	95.2	93.4	98.4	103.3	108.0	111.7	142.5
250	86.0	93.1	89.8	90.1	91.0	93.6	96.2	96.6	98.3	103.7	109.0	112.5	114.4	146.3
315	89.1	91.2	90.2	93.4	94.3	94.4	98.1	97.5	100.2	105.4	110.6	114.8	116.5	148.3
400	88.5	91.8	91.8	92.5	93.4	93.8	106.4	97.8	103.8	108.8	113.7	117.7	117.3	150.8
500	90.2	92.3	92.1	93.3	93.4	95.3	97.4	98.3	105.3	110.5	115.8	118.2	118.1	151.6
630	90.9	93.0	93.5	94.8	95.1	96.0	97.4	99.3	105.7	111.3	116.9	119.6	118.8	152.7
800	96.2	95.5	96.0	97.5	97.6	97.0	98.6	101.0	106.5	112.1	117.7	119.6	119.0	153.2
1000	110.7	107.2	103.5	106.9	104.9	103.5	102.4	101.8	106.5	111.6	116.7	121.4	121.5	154.7
1250	111.5	110.8	107.6	107.0	105.2	105.6	105.7	103.1	106.1	110.8	115.5	119.9	120.7	154.2
1600	112.5	112.2	112.8	112.6	109.7	104.6	104.2	104.0	105.1	109.7	114.3	119.7	120.7	154.8
2000	111.3	110.7	111.8	113.0	114.0	112.4	107.1	104.0	105.3	109.3	113.4	119.7	118.5	154.9
2500	109.7	109.7	109.3	110.4	111.4	112.3	111.0	106.8	106.2	109.4	112.5	118.1	115.6	153.7
3150	107.9	108.7	109.4	109.5	108.3	109.1	111.5	108.7	105.3	108.7	112.1	115.5	112.8	152.3
4000	106.0	105.9	107.6	108.9	108.7	107.6	107.5	110.1	104.7	107.7	110.7	113.7	111.0	151.1
5000	105.3	105.5	107.1	107.8	107.3	107.8	106.9	108.2	104.7	107.6	110.4	112.2	109.0	150.4
6300	103.2	104.5	106.3	106.8	107.0	107.0	107.0	107.4	104.4	106.5	108.6	110.1	107.1	149.5
8000	102.0	103.9	104.7	106.4	105.8	106.4	106.3	106.7	103.1	104.9	106.7	107.5	105.6	148.7
10000	100.5	102.7	104.2	105.8	105.5	106.5	105.7	106.2	102.3	103.8	105.4	107.1	104.4	148.7
12500	98.6	100.7	102.3	105.0	104.3	105.1	104.6	104.8	99.9	101.6	103.3	105.6	103.1	148.1
16000	96.3	98.9	99.1	103.7	103.1	103.1	103.1	103.2	97.5	99.5	101.5	103.4	101.2	147.6
20000	94.5	96.3	97.2	100.7	101.3	101.9	101.7	101.3	94.6	97.3	100.0	101.6	100.0	147.5
25000	91.6	94.9	95.0	98.8	100.0	100.9	100.0	100.0	94.0	95.6	97.3	98.4	95.9	148.2
31500	85.8	90.1	88.9	95.1	94.7	96.3	95.5	95.3	88.9	91.0	93.1	93.4	90.4	146.6
40000	82.6	87.8	86.8	91.9	92.3	93.1	93.0	93.1	86.6	88.7	90.8	92.5	87.6	148.1
50000	79.7	85.8	83.2	88.8	89.3	90.8	89.7	90.5	83.1	86.0	88.9	90.5	85.4	149.8
63000	76.1	83.5	81.0	85.9	85.8	87.8	86.4	88.2	79.5	83.4	87.3	88.5	82.0	152.4
80000	70.8	81.8	78.0	81.4	81.5	84.4	81.8	82.7	74.5	79.6	84.7	84.2	76.0	155.2
GASPL	119.4	119.1	119.3	120.2	119.9	119.5	119.1	118.2	117.3	121.5	126.1	129.8	129.6	165.8
PNL	131.0	131.2	131.6	132.4	132.6	132.6	132.8	131.8	129.6	133.3	137.1	141.1	140.2	
PNLT	133.2	132.5	132.7	134.0	133.8	133.9	134.2	131.8	129.6	133.3	137.1	141.1	140.2	
DBA	192.3	202.5	199.0	202.7	202.8	205.4	203.1	204.2	196.0	200.7	205.5	205.4	197.8	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH294 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 69.00 PAMB HG = 29.35 RELHUM = 90.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1691.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1833.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-1127 TAPE = XT127F TEST PT NO = 1127 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1127 X11271

ANGLES MEASURED FROM INLET, DEGREES

FREQ 40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160.

50 67.2 72.0 73.1 74.5 75.8 76.3 79.8 79.8 85.1 89.0 92.4 94.2 90.5 168.9

63 68.9 72.5 73.8 75.3 76.8 77.8 79.8 80.3 86.6 90.7 94.4 94.6 91.2 169.8

80 69.5 73.1 74.7 76.8 78.5 79.7 81.2 87.0 91.5 95.5 96.0 91.8 170.9

100 76.9 79.5 81.0 83.4 85.3 86.6 88.0 89.4 90.5 91.7 92.9 94.1 91.9 171.3

1250 74.9 79.5 82.7 85.3 86.6 88.0 89.4 90.5 91.7 92.9 94.1 95.3 92.5 172.9

1600 72.1 76.9 80.3 84.2 85.2 86.5 87.9 89.0 90.1 91.2 92.4 93.6 90.9 173.0

2000 68.8 74.6 78.8 82.6 83.0 84.5 85.8 87.1 88.2 89.3 90.4 91.5 88.5 171.8

2500 65.2 70.7 74.0 78.0 79.0 80.5 81.3 82.8 83.8 84.9 86.0 87.1 84.8 168.5

3150 58.9 66.9 69.9 75.6 77.8 79.0 80.8 81.3 82.8 83.8 84.9 86.0 87.1 166.8

4000 46.9 57.3 60.0 68.6 69.5 71.5 70.3 68.8 60.0 58.2 54.2 44.1 20.8 164.8

5000 34.0 47.5 51.6 60.0 62.0 63.5 62.7 61.1 51.4 48.4 42.1 29.5 3.4 166.2

6300 13.2 31.3 36.0 46.1 49.0 51.3 49.4 47.7 35.9 31.5 22.5 12.5 3.4 170.5

8000 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8

10000 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8

12500 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8

15000 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8

183.8 101.3 105.2 103.8 105.2 101.3 98.4 97.5 100.7 103.8 105.2 101.3 98.4 97.5 100.7

101.7 105.5 106.7 101.7 105.5 106.7 101.7 105.5 106.7 101.7 105.5 106.7 101.7 105.5 106.7

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1128 X1128C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	86.3	85.8	84.1	81.7	83.6	83.5	85.9	80.8	87.7	91.5	90.7	96.4	129.6
63	94.7	89.5	91.5	88.6	89.4	91.5	91.9	91.8	85.2	93.3	92.2	90.9	96.8	133.7
80	87.9	92.0	87.7	89.5	89.4	90.7	91.6	90.3	88.2	95.1	92.4	95.1	99.3	134.0
100	87.2	92.3	87.3	89.6	90.2	89.8	91.4	92.6	87.3	93.8	94.5	98.9	102.6	135.4
125	84.7	86.7	89.0	90.9	91.1	91.0	91.8	91.7	88.7	94.3	98.4	102.8	105.5	137.6
160	82.9	82.0	86.5	86.3	86.9	86.5	91.6	87.5	88.5	91.0	98.9	102.6	107.0	137.6
200	85.3	84.1	85.4	85.2	86.8	87.9	91.3	91.4	89.9	97.0	99.3	105.0	108.7	139.4
250	82.0	84.6	83.8	85.9	85.7	87.6	91.2	92.1	94.1	96.9	104.8	108.7	110.1	142.1
315	82.6	86.4	84.9	87.4	88.3	89.2	93.6	93.0	96.4	98.5	106.1	110.6	111.0	143.5
400	83.0	85.3	86.0	87.0	87.9	88.3	99.9	92.8	99.0	99.4	109.2	112.2	109.6	144.9
500	84.0	84.8	86.3	88.0	88.4	89.3	92.2	93.6	101.3	99.9	111.5	113.2	107.6	145.8
630	84.9	86.0	87.7	88.6	89.4	90.2	92.1	94.3	102.2	101.0	112.2	113.1	104.3	145.9
800	92.4	92.5	94.0	94.5	92.6	94.0	94.4	97.0	104.0	103.1	113.0	111.1	100.5	146.0
1000	105.2	101.7	99.7	97.1	94.9	93.7	95.1	97.3	102.7	103.8	111.7	109.4	99.0	145.7
1250	112.3	112.8	109.3	106.0	100.0	97.6	98.2	98.6	102.6	104.7	110.3	106.2	99.2	149.2
1600	110.5	111.4	113.4	114.1	111.0	103.8	99.9	98.7	101.6	104.9	109.1	102.7	99.0	151.4
2000	107.0	107.2	109.6	111.7	113.6	111.9	105.9	100.5	100.6	105.6	106.4	101.0	97.0	151.0
2500	108.0	107.8	106.6	106.9	109.2	111.1	111.0	105.4	101.7	107.5	105.3	99.8	95.9	150.0
3150	105.6	106.7	107.4	108.0	106.3	105.9	109.3	108.2	102.0	108.4	104.4	98.3	95.3	149.0
4000	104.1	104.5	105.3	106.2	106.9	105.9	104.8	107.9	102.0	111.4	103.4	97.2	94.5	148.5
5000	103.6	104.3	105.2	105.6	105.9	105.6	105.7	105.8	102.8	112.9	103.7	98.0	94.3	148.7
6300	102.2	103.3	103.9	104.6	105.5	104.5	104.8	105.0	103.2	111.3	103.4	97.9	93.9	147.9
8000	100.6	102.7	103.3	104.7	103.9	104.2	103.4	104.0	102.0	109.8	102.3	96.6	93.0	147.2
10000	99.9	101.6	102.6	103.9	103.6	104.1	103.4	103.6	100.0	108.6	100.8	96.3	92.0	147.0
12500	98.1	99.2	101.0	102.9	102.3	102.8	102.6	102.5	97.6	106.8	99.5	95.3	90.8	146.4
16000	95.1	98.3	98.2	101.0	100.9	101.1	101.5	101.3	96.1	105.9	98.4	94.0	90.0	146.4
20000	93.2	95.3	96.0	98.7	99.6	100.1	99.7	98.8	93.4	103.9	97.0	93.3	89.4	146.3
25000	90.2	93.0	96.0	96.5	97.5	98.6	98.7	98.0	92.5	102.7	95.0	91.8	86.8	147.2
31500	84.4	87.9	93.2	91.8	91.9	94.0	93.5	92.6	87.0	98.8	89.6	86.8	80.8	145.8
40000	80.6	85.4	95.2	89.2	89.3	90.9	90.5	90.9	83.2	96.6	87.4	83.7	78.0	147.9
50000	77.1	83.3	98.1	85.1	86.3	87.5	87.5	87.3	78.8	94.8	83.6	79.7	73.6	151.7
63000	73.4	82.3	100.6	81.1	82.7	84.1	82.6	84.6	73.8	92.8	80.6	75.6	68.3	157.7
80000	69.9	81.2	101.0	76.5	77.2	80.1	76.7	78.2	66.4	90.0	75.0	68.6	60.3	164.3

CASPL 117.6 118.1 118.5 118.9 118.6 117.6 116.9 115.8 114.2 120.5 121.0 120.8 118.2 166.8

PNL 129.0 129.2 130.1 130.7 131.2 130.6 130.6 129.4 126.5 133.6 131.0 128.9 125.8

PNLT 132.4 131.3 131.4 133.1 133.8 132.1 131.7 129.4 126.5 133.6 131.0 128.9 125.8

DBA 118.2 118.6 118.9 119.4 119.1 118.0 117.0 115.6 113.7 120.0 119.9 118.2 112.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE = ADH314 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1707.1 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1856.2 FPS AE18 = 13.0 SQ IN

RUNPT = 82F-400-1128 TAPE = X1128C TEST PT NO = 1128 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1128 XT128F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	88.7	90.2	88.2	88.8	87.2	87.6	89.3	88.5	93.0	94.1	101.2	106.1	108.4	139.8
315	88.7	90.2	88.2	88.8	90.1	89.4	92.2	90.2	95.8	95.3	104.8	108.5	108.4	141.6
400	90.2	92.7	89.8	90.7	89.7	88.5	98.6	90.1	98.4	96.2	107.6	110.5	108.2	143.4
500	90.1	91.3	90.8	90.3	90.3	89.6	91.1	91.0	100.7	99.0	110.1	112.8	108.3	145.2
630	91.7	91.2	91.3	91.5	91.3	90.6	91.5	92.6	103.2	102.1	112.5	113.3	108.7	146.6
800	92.5	92.3	92.7	92.1	94.1	94.5	93.8	95.5	102.4	103.3	111.7	112.6	109.3	146.2
1000	97.3	96.7	97.4	96.9	97.5	94.4	94.7	95.9	102.3	104.1	110.2	109.2	109.2	145.0
1250	115.6	110.4	106.5	101.8	102.1	98.4	98.0	97.4	101.8	104.5	108.9	105.5	108.7	149.3
1600	119.9	119.3	114.4	109.6	113.5	104.9	100.4	98.3	99.7	104.3	105.5	103.1	106.1	154.9
2000	120.4	119.6	119.6	116.4	116.2	113.2	105.7	98.9	101.2	106.6	104.8	102.5	105.5	157.6
2500	114.7	113.7	114.9	115.8	111.9	112.7	111.1	104.1	104.7	111.3	108.1	105.4	109.6	154.4
3150	114.3	113.4	111.4	110.7	109.1	107.9	110.9	109.4	103.1	112.1	104.5	101.4	106.1	152.5
4000	110.8	111.4	111.6	111.5	110.6	108.5	106.4	108.2	103.7	113.3	104.4	101.7	104.9	152.0
5000	111.1	110.9	110.9	110.7	109.8	108.6	107.4	106.0	104.2	111.8	104.2	101.7	104.7	151.6
6300	110.4	110.6	110.8	110.3	109.6	107.5	106.5	105.2	103.5	110.9	103.8	101.4	105.4	151.3
8000	109.5	109.8	109.5	109.3	108.0	107.2	105.4	104.6	102.2	110.5	103.3	102.3	105.9	150.8
10000	107.7	109.1	108.8	109.2	107.7	107.1	105.6	104.6	100.5	109.4	102.8	102.2	105.5	150.8
12500	106.8	107.7	107.8	108.1	106.3	105.8	104.9	103.8	99.4	108.9	102.1	101.2	105.0	150.6
16000	104.4	104.8	105.7	106.6	105.0	104.1	103.7	102.5	97.5	107.9	101.7	101.4	104.9	150.4
20000	101.1	103.5	102.5	104.3	103.6	103.1	102.0	100.2	97.0	106.9	100.0	100.3	103.0	150.4
25000	98.5	99.9	99.7	101.4	101.5	101.6	101.0	99.3	91.2	102.6	93.8	94.2	95.7	149.9
31500	94.7	96.8	98.9	98.5	96.4	97.0	95.4	93.1	88.1	100.9	92.1	91.3	92.6	149.6
40000	90.7	93.0	96.9	94.0	93.3	93.9	92.2	91.2	84.0	99.5	88.5	87.6	88.5	150.9
50000	83.9	88.0	96.9	89.9	90.4	90.5	89.2	87.6	79.9	98.3	86.4	84.4	84.0	153.2
63000	81.7	86.6	99.9	85.3	86.9	87.1	84.2	84.8	73.9	97.0	82.3	78.9	77.6	158.4
80000	76.7	84.4	101.1	80.0	81.4	83.1	78.3	78.3	64.1	87.2	72.5	69.0	67.7	164.5
GASPL	125.6	124.8	123.8	123.0	121.6	119.6	118.0	116.1	114.6	121.5	120.1	120.5	120.2	168.2
PNL	137.2	136.5	136.1	135.1	133.6	131.8	130.8	129.1	126.8	134.0	130.7	129.3	131.7	
PNLT	139.5	138.1	137.7	137.0	136.3	133.3	132.0	130.2	126.8	134.0	131.9	130.4	133.0	
DBA	198.2	205.2	221.5	201.7	203.0	204.3	200.2	200.2	188.0	210.4	196.0	192.8	191.8	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICLE	=	ADH314	TEST DATE	=	08-27-82	LOCAT	=	C41 ANECH CH	CONFIG	=	1	MODEL	=	AX	FLTVEL	=	400. FPS	
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	77.50	PAMB HG	=	29.40	RELHUM	=	60.0 PCT	
WIND DIR	=		DEG		WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=	NBFR		
FNIN1	=	LBS	XNL	=		RPM		XNH	=		RPM		V8	=	1707.1 FPS	AE8	=	3.4 SQ IN
FNRAMB	=	LBS	XNLR	=		RPM		XNHR	=		RPM		V18	=	1855.2 FPS	AE18	=	18.0 SQ IN

RUNPT = 82F-400-1128 TAPE = XT128F TEST PT NO = 1128 NC = AE063 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1128 X11281

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.9	73.0	71.1	72.7	72.1	71.1	81.0	72.1	79.7	76.4	86.3	87.0	81.3	161.5
63	68.8	71.5	72.1	72.3	72.7	72.2	73.5	73.0	82.0	79.2	88.8	89.3	81.4	163.3
80	70.3	71.4	72.5	73.5	73.7	73.1	73.8	74.5	84.5	82.3	91.1	89.7	81.7	164.7
100	71.0	72.4	73.9	74.0	76.5	77.0	76.2	77.5	83.6	83.4	90.3	88.9	82.2	164.3
125	75.8	76.7	78.5	78.8	79.7	76.8	77.0	77.8	83.4	84.1	88.6	85.3	81.8	163.2
160	93.8	90.3	87.4	83.5	84.2	80.6	80.1	79.1	82.7	84.3	87.1	81.4	80.9	167.4
200	97.9	98.9	95.2	91.2	95.5	87.0	82.4	79.8	80.5	83.9	83.4	78.7	77.9	173.0
250	98.1	99.0	100.2	99.7	98.0	95.1	87.5	80.2	81.8	86.0	82.4	77.6	76.6	175.7
315	91.9	92.8	95.2	96.8	93.4	94.3	92.5	85.2	85.0	90.3	85.3	80.0	79.9	172.5
400	91.0	92.0	91.3	91.4	90.3	89.3	92.1	90.1	83.0	90.7	81.2	75.4	75.4	170.7
500	87.0	89.6	91.2	91.9	91.5	89.6	87.3	88.6	83.3	91.5	80.7	75.0	73.2	170.1
630	86.8	88.7	90.1	90.9	90.5	89.4	88.1	86.2	83.5	89.7	80.0	74.3	71.9	169.7
800	85.7	88.1	89.7	90.2	90.0	88.1	86.9	85.1	82.4	88.3	79.1	73.3	71.5	169.4
1000	84.3	87.0	88.2	89.0	88.2	87.7	85.7	84.3	80.9	87.6	78.1	73.5	70.9	168.9
1250	82.1	85.9	87.3	88.8	87.8	87.5	85.7	84.1	79.0	86.2	77.2	72.7	69.1	168.9
1600	80.2	83.9	85.9	87.3	86.2	85.9	84.8	83.0	77.4	85.2	75.5	70.3	66.2	168.7
2000	76.9	80.4	83.4	85.6	84.6	84.1	83.4	81.5	75.2	83.5	74.2	68.8	63.1	168.5
2500	71.7	77.9	79.3	82.6	82.7	82.5	81.2	78.5	73.8	81.3	70.7	64.9	56.2	168.5
3150	65.8	71.9	74.6	78.2	79.3	79.6	78.8	76.1	66.1	74.5	61.2	53.9	40.5	168.0
4000	55.8	64.0	70.0	71.9	71.2	72.2	70.2	66.6	59.2	68.1	53.2	42.0	23.0	167.8
5000	42.0	52.7	61.8	62.1	63.1	64.2	62.0	59.3	48.8	59.1	39.9	24.6		169.0
6300	17.4	33.5	49.7	47.2	50.1	51.0	48.9	44.8	32.6	43.8	20.0			171.3
8000		7.2	31.4	23.4	28.4	29.8	25.8	22.8	5.3	17.6				176.5
10000			1.1											182.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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CASPL 103.0 103.8 103.9 103.8 102.9 100.8 98.9 96.3 94.6 99.4 87.9 95.9 90.7 186.3  
PNL 107.0 108.7 109.9 110.1 109.3 107.6 106.2 104.0 100.1 106.4 100.4 96.6 92.9  
PNLT 108.2 109.5 110.7 111.1 110.7 108.3 106.8 104.5 100.8 107.0 101.0 97.2 93.5  
DBA 95.8 97.6 98.6 99.3 98.4 97.3 95.9 94.0 89.7 96.6 88.0 83.0 80.8

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CGAN. DUAL CONV/DFSC-1/NAS3-23166

VEHICL = ADH314 TEST DATE = 08-27-82 LOCAT = C41 ANECH CH CONFIG = 1 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.50 PAMB HG = 29.40 RELHUM = 60.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1707.1 FPS AE8 = 3.1 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1855.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1128 TAPE = X11281 TEST PT NO = 1128 NC = AE063 CORR FAN SPEED = RPM

#### 4.2 Acoustic Data of DFSC-2

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT P.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0201 X0201C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	75.5	74.1	70.6	69.6	72.0	67.1	70.0	79.9	70.1	78.7	77.3	86.0	85.9	119.8
63	84.2	85.0	79.2	78.3	81.1	75.7	79.9	89.8	79.2	87.0	85.2	93.6	93.8	128.3
80	67.4	71.0	68.7	69.0	67.9	68.5	70.9	72.3	70.2	73.8	72.2	77.9	78.0	113.9
100	66.7	72.0	67.0	69.8	71.9	71.3	70.9	71.3	72.0	75.3	77.0	79.4	80.8	115.7
125	66.4	68.7	70.7	70.9	71.1	71.0	73.1	72.5	72.0	76.3	79.2	82.6	84.3	117.7
160	77.2	72.2	71.7	69.8	72.9	72.5	76.9	83.8	73.0	78.3	80.7	85.1	87.3	121.3
200	80.1	76.1	73.1	71.9	74.8	75.4	78.5	86.9	76.9	81.7	83.3	88.3	90.2	124.3
250	68.5	73.3	71.6	71.4	72.7	75.3	77.0	77.1	78.1	83.9	87.8	91.0	92.6	125.1
315	76.4	75.9	75.7	76.4	77.3	77.2	80.6	79.7	81.2	86.7	89.4	93.8	96.0	128.0
400	70.5	74.5	75.0	75.0	76.7	78.0	89.2	80.6	82.8	90.1	93.0	97.2	98.1	131.1
500	72.2	75.0	76.1	76.3	77.4	79.0	81.7	82.1	84.8	91.9	96.5	99.9	100.6	133.3
630	72.4	77.5	78.2	79.1	79.9	80.7	81.4	83.5	85.2	94.8	99.2	102.9	102.5	135.8
800	76.7	78.2	80.3	81.5	81.6	82.7	83.9	85.8	88.3	97.3	102.7	104.4	104.0	138.0
1000	86.9	89.5	90.2	89.1	86.9	85.5	85.4	87.3	90.2	98.8	103.9	105.6	105.0	139.5
1250	80.8	86.3	88.1	90.5	92.0	93.6	93.2	91.6	92.3	100.2	105.0	106.5	106.7	140.9
1600	83.5	84.9	86.4	86.6	87.2	89.1	90.7	92.2	93.6	100.4	106.1	107.0	108.0	141.5
2000	89.5	91.2	92.8	91.0	88.6	88.7	89.9	91.5	94.6	101.1	105.1	107.7	108.2	141.8
2500	85.8	88.0	91.3	91.4	91.2	91.1	90.0	92.9	95.2	102.5	103.8	107.9	107.1	141.6
3150	87.1	88.7	89.7	89.0	87.8	89.1	91.0	92.0	94.0	101.1	102.6	105.3	105.6	139.9
4000	88.0	88.0	88.8	87.7	87.4	88.9	89.5	92.4	95.0	100.7	100.2	104.0	103.5	138.7
5000	92.5	91.3	90.9	88.8	87.1	88.8	89.7	91.8	95.5	99.3	100.4	102.2	101.7	138.2
6300	92.9	92.7	92.8	91.1	89.5	89.0	89.7	91.9	94.4	98.0	98.8	100.6	100.1	137.6
8000	94.0	94.6	93.7	91.6	90.3	90.1	89.1	91.4	93.6	95.9	97.2	98.5	99.4	137.2
10000	94.2	95.7	95.2	93.2	91.7	91.5	90.2	91.2	92.5	95.6	95.1	98.6	98.9	137.9
12500	92.3	93.4	94.7	94.2	92.3	91.8	90.3	90.8	91.6	92.7	92.7	97.1	97.8	137.7
16000	89.5	91.1	91.7	93.1	92.3	91.5	89.8	90.1	90.1	90.2	90.4	95.3	96.4	137.6
20000	88.3	88.6	89.3	89.8	89.9	90.7	89.3	87.9	88.4	87.7	88.1	93.4	94.1	137.3
25000	84.9	86.7	88.0	88.4	87.8	88.5	88.3	87.6	88.0	87.0	86.0	90.4	90.5	137.9
31500	78.3	81.1	82.3	84.3	83.2	84.3	82.5	82.6	83.3	82.7	81.3	85.7	84.5	136.1
40000	75.1	78.2	80.2	80.9	80.5	81.4	79.5	79.8	80.3	79.4	77.8	82.7	81.9	137.2
50000	71.1	74.2	75.1	76.7	76.9	78.2	76.1	75.4	75.7	76.2	74.6	79.1	78.6	137.8
63000	67.4	70.9	71.7	72.0	72.7	73.8	71.0	72.3	72.6	72.4	71.7	75.6	74.8	139.2
80000	61.4	68.2	68.2	66.7	67.5	68.6	65.7	66.0	67.2	69.7	67.0	71.9	69.6	141.4

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CASPL 102.2 103.1 103.5 102.8 102.0 102.3 102.3 103.5 105.2 110.9 114.0 116.4 116.5 152.6  
PNL 113.3 113.7 114.0 113.3 112.9 113.2 114.2 115.8 117.8 124.0 126.0 129.2 129.0  
PWL 116.1 116.1 116.1 115.3 114.5 115.3 115.9 117.6 117.8 124.0 126.0 129.2 129.0  
DBA 100.7 101.5 102.1 101.0 100.2 100.9 101.3 102.7 105.1 111.3 114.4 116.7 116.8

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH238 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1708.0 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0201 TAPE = X0201C TEST PT NO = 0201 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0201 X0201F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	75.5	74.1	70.6	69.6	72.0	67.1	70.0	79.9	70.1	78.7	77.3	86.0	85.9	119.8
63	84.2	85.0	79.2	78.3	81.1	75.7	79.9	89.8	79.2	87.0	85.2	93.6	93.8	128.3
80	67.4	71.0	68.7	69.0	67.9	68.5	70.9	72.3	70.2	73.8	72.2	77.9	78.0	113.9
100	66.7	72.0	67.0	69.8	71.9	71.3	70.9	71.3	72.0	75.3	77.0	79.4	80.8	115.7
125	66.4	68.7	70.7	70.9	71.1	71.0	73.1	72.5	72.0	76.3	79.2	82.6	84.3	117.7
160	77.2	72.2	71.7	69.8	72.9	72.5	76.9	83.8	73.0	78.3	80.7	85.1	87.3	121.3
200	80.1	76.1	73.1	71.9	74.8	75.4	78.5	86.9	76.9	81.7	83.3	88.3	90.2	124.3
250	68.5	73.3	71.6	71.4	72.7	75.3	77.0	77.1	78.1	83.9	87.8	91.0	92.6	125.1
315	76.4	75.9	75.7	76.4	77.3	77.2	80.6	79.7	81.2	86.7	89.4	93.8	96.0	128.0
400	70.5	74.5	75.0	75.0	76.7	78.0	89.2	80.6	82.8	90.1	93.0	97.2	98.1	131.1
500	72.2	75.0	76.1	76.3	77.4	79.0	81.7	82.1	84.8	91.9	96.5	99.9	100.6	133.3
630	72.4	77.5	78.2	79.1	79.9	80.7	81.4	83.5	85.2	94.8	99.2	102.9	102.5	135.8
800	76.7	78.2	80.3	81.5	81.6	82.7	83.9	85.8	88.3	97.3	102.7	104.4	104.0	138.0
1000	86.9	89.5	90.2	89.1	86.9	85.5	85.4	87.3	90.2	98.8	103.9	105.6	105.0	139.5
1250	80.8	85.3	88.1	90.5	92.0	93.6	93.2	91.6	92.3	100.2	105.0	106.5	106.7	140.9
1600	83.5	84.9	86.4	86.6	87.2	89.1	90.7	92.2	93.6	100.4	106.1	107.0	108.0	141.5
2000	89.5	91.2	92.8	91.0	88.6	88.7	89.9	91.5	94.6	101.1	105.1	107.7	108.2	141.8
2500	85.8	88.0	91.3	91.4	91.2	91.1	90.0	92.9	95.2	102.5	103.8	107.9	107.1	141.6
3150	87.1	88.7	89.7	89.0	87.8	89.1	91.0	92.0	94.0	101.1	102.6	105.3	105.6	139.9
4000	88.0	88.0	88.8	87.7	87.4	88.9	89.5	92.4	95.0	100.7	100.2	104.0	103.5	138.7
5000	92.5	91.3	90.9	88.8	87.1	88.8	89.7	91.8	95.5	99.3	100.4	102.2	101.7	138.2
6300	92.9	92.7	92.8	91.1	89.5	89.0	89.7	91.9	94.4	98.0	98.8	100.6	100.1	137.6
8000	94.0	94.6	93.7	91.6	90.3	90.1	89.1	91.4	93.6	95.9	97.2	98.5	99.4	137.2
10000	94.2	95.7	95.2	93.2	91.7	91.5	90.2	91.2	92.5	95.6	95.1	98.6	98.9	137.9
12500	92.3	93.4	94.7	94.2	92.3	91.8	90.3	90.8	91.6	92.7	92.7	97.1	97.8	137.7
16000	89.5	91.1	91.7	93.1	92.3	91.5	89.8	90.1	90.1	90.2	80.4	95.3	96.4	137.6
20000	88.3	88.6	89.3	89.8	89.9	90.7	89.3	87.9	88.4	87.7	88.1	93.4	94.1	137.3
25000	84.9	86.7	88.0	88.4	87.8	88.5	88.3	87.6	88.0	87.0	86.0	90.4	90.5	137.9
31500	78.3	81.1	82.3	84.3	83.2	84.3	82.5	82.6	83.3	82.7	81.3	85.7	84.5	136.1
40000	75.1	78.2	80.2	80.9	80.5	81.4	79.5	79.8	80.3	79.4	77.8	82.7	81.9	137.2
50000	71.1	74.2	75.1	76.7	76.9	78.2	76.1	75.4	75.7	76.2	74.6	79.1	78.6	137.8
63000	67.4	70.9	71.7	72.0	72.7	73.8	71.0	72.3	72.6	72.4	71.7	75.6	74.8	139.2
80000	61.4	68.2	68.2	66.7	67.5	68.6	65.7	66.0	67.2	69.7	67.0	71.9	69.6	141.4
BASPL	102.2	103.1	103.5	102.8	102.0	102.3	102.3	103.5	105.2	110.9	114.0	116.4	116.5	152.6
PNL	113.3	113.7	114.0	113.3	112.9	113.2	114.2	115.8	117.8	124.0	126.0	129.2	129.0	
PNLT	116.1	116.1	116.1	115.3	114.5	115.3	115.9	117.6	117.8	124.0	126.0	129.2	129.0	
DBA	183.3	189.1	189.3	188.4	189.1	190.2	187.4	187.9	188.8	190.7	188.4	193.0	191.2	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH238	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
JAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1708.0 FPS	AE8 = 4.0 SQ IN	
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 =	FPS AE18 = 0. SQ IN	
RUNPT = 82F-ZER-0201	TAPE = X0201F	TEST PT NO = 0201	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0201 X02011

ANGLES MEASURED FROM INLET, DEGREES

		40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	
FREQ															PWL
50	73.0	77.1	78.9	78.5	76.7	75.4	75.2	76.7	78.9	86.4	90.0	89.5	85.6	165.0	
63	66.8	73.9	76.7	79.8	81.7	83.5	83.0	81.0	81.0	87.7	91.1	90.3	87.2	166.4	
80	69.5	72.5	75.0	75.9	77.0	79.0	80.4	81.6	82.2	88.0	92.1	90.8	88.4	166.9	
100	75.5	78.7	81.4	80.3	78.3	78.5	79.6	80.8	83.2	88.6	91.1	91.4	88.5	167.2	
125	71.6	75.4	79.9	80.6	80.9	80.9	79.7	82.1	83.8	90.0	89.6	91.4	87.2	167.0	
160	72.8	76.0	78.1	78.2	77.4	78.9	80.6	81.2	82.5	88.5	88.3	88.7	85.3	165.4	
200	73.6	75.2	77.2	76.8	77.0	78.6	79.1	81.5	83.3	87.9	85.7	87.1	82.8	164.2	
250	77.9	78.3	79.1	77.8	76.5	78.4	79.1	80.8	83.7	86.4	85.8	85.1	80.6	163.6	
315	78.1	79.6	80.9	80.0	78.9	78.5	79.1	80.9	82.5	84.9	84.0	83.1	78.3	163.0	
400	79.0	81.4	81.8	80.6	79.7	79.7	78.5	80.4	81.7	82.7	82.1	80.6	76.9	162.7	
500	79.2	82.5	83.4	82.3	81.3	81.2	79.8	80.3	80.8	82.5	80.0	80.5	75.9	163.4	
630	77.4	80.6	83.3	83.6	82.3	82.0	80.3	80.2	80.1	79.9	77.8	79.0	74.4	163.2	
800	75.2	79.0	81.1	83.4	83.1	82.5	80.7	80.5	79.5	78.1	76.2	77.7	72.9	163.1	
1000	75.0	77.6	79.8	81.4	82.0	83.0	81.4	79.4	78.9	76.6	74.8	76.5	70.9	162.8	
1250	72.8	77.2	80.1	81.5	81.6	82.4	82.1	80.8	80.1	77.5	74.0	74.5	67.6	163.4	
1600	67.7	73.2	76.3	79.5	79.0	80.3	78.3	77.7	77.3	74.9	70.7	70.7	61.6	161.6	
2000	66.2	72.5	76.5	78.5	78.8	79.9	77.7	77.4	76.5	73.6	68.9	68.7	58.6	162.7	
2500	63.0	69.8	73.1	76.2	77.3	78.8	76.5	74.9	73.7	71.8	66.5	64.9	53.0	163.2	
3150	58.9	67.0	70.7	72.9	74.6	76.1	73.0	73.2	71.7	68.6	63.2	59.4	43.8	164.7	
4000	50.4	63.2	67.1	68.0	70.1	71.7	68.4	67.3	66.1	64.8	56.0	50.4	27.8	166.9	
5000															
6300															
8000															
10000															
12500															
16000															
20000															
25000															
31500															
40000															
50000															
63000															
80000															
GASPL	87.5	90.5	92.4	92.9	92.6	93.2	92.5	92.8	93.8	97.9	99.1	99.1	95.6	177.7	
PNL	93.1	97.1	99.4	100.6	100.9	101.9	100.4	100.1	100.1	101.2	100.1	100.4	95.6		
PNLT	94.0	97.9	100.0	100.6	101.4	101.9	100.4	100.1	100.1	101.2	100.1	100.4	95.6		
DBA	83.5	87.0	89.2	90.4	90.2	90.9	89.4	88.8	88.7	88.6	86.9	87.2	82.6		
MODEL AREA = 25.6 SQ CM ( 4.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO =18.776 FREQ SHIFT =-13															
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166															
VEHICL = ADH238 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS															
1APLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT															
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =															
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1708.0 FPS AEB = 4.0 SQ IN															
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN															
RUNPT = 82F-ZIR-0201 TAPE = X02011 TEST PT NO = 0201 NC = AE060 CORR FAN SPEED = RPM															

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0202 X0202C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50									73.3	92.8				123.6
63									80.7	102.4	77.9			133.2
80									81.6			90.0		118.6
100									74.9					106.2
125												80.0		108.9
160									72.1		76.4	78.5		110.8
200									72.8	78.4	78.6	80.7	87.6	117.7
250							87.0		74.8	77.8	82.6	84.3	85.1	121.6
315							83.4		76.3	86.9	84.2	86.0		121.9
400		69.2	69.4					74.2	77.7	83.2	87.0	87.3	82.3	121.5
500	67.6	69.8	69.8	71.8	72.5	73.6	80.6	76.9	79.2	85.4	90.2	88.6		124.0
630	67.6	71.0	72.0	73.2	73.8	74.6	76.4	78.0	80.2	88.6	93.1	89.8	81.2	126.3
800	70.8	72.1	73.8	74.7	75.8	76.7	79.0	80.8	83.9	91.5	96.7	91.4	84.7	129.3
1000	75.3	74.4	75.9	77.0	77.9	77.4	79.7	82.3	85.4	93.0	97.9	93.4	86.9	130.8
1250	75.3	79.2	78.9	79.5	80.0	80.8	82.5	84.0	87.0	94.6	99.3	94.4	88.5	132.2
1600	75.6	76.8	78.5	79.4	80.8	82.2	84.8	85.6	88.8	94.7	99.6	94.2	89.3	132.6
2000	78.9	78.3	79.7	80.9	81.6	82.5	85.8	88.2	90.6	95.6	98.4	93.5	87.5	132.5
2500	80.0	81.2	82.5	82.0	82.8	83.4	86.2	88.8	92.0	97.2	97.0	92.3	86.0	132.7
3150	82.8	83.9	82.9	82.6	83.1	83.6	86.6	88.4	91.0	95.8	96.4	90.3	84.9	132.0
4000	86.3	86.0	85.1	84.1	84.8	84.7	86.4	88.8	91.7	94.8	94.4	91.0	85.9	131.8
5000	90.3	90.5	89.1	87.0	85.2	84.9	86.5	88.7	91.7	94.0	94.7	91.0	86.7	132.6
6300	90.2	92.2	90.6	89.3	88.7	85.8	87.3	88.8	91.1	92.7	93.1	90.9	87.4	132.9
8000	91.8	92.9	91.7	90.1	88.5	87.5	87.5	88.0	91.1	91.8	91.9	90.0	87.8	133.5
10000	92.3	94.4	94.0	91.7	90.0	88.9	88.9	89.1	90.5	91.8	91.4	90.6	88.4	135.0
12500	90.3	92.4	93.5	92.9	90.8	89.5	89.3	89.2	89.8	90.2	90.2	90.3	88.6	135.4
16000	87.0	90.1	90.6	91.9	91.1	89.5	89.1	88.7	89.2	88.7	89.5	89.4	87.9	135.6
20000	85.2	87.7	88.1	88.9	88.8	88.8	89.4	87.5	88.0	87.0	88.5	88.5	87.2	135.8
25000	82.3	85.9	86.4	87.5	86.7	87.3	88.0	87.2	88.1	86.9	86.7	86.8	84.6	136.9
31500	76.7	80.5	81.3	83.8	82.9	83.2	82.7	82.5	83.6	82.5	81.8	81.1	77.9	135.4
40000	72.6	77.5	78.3	79.7	80.0	80.4	79.7	79.6	80.6	78.5	78.3	77.5	73.4	136.1
50000	68.4	72.6	74.1	75.8	76.0	76.5	75.9	75.4	76.6	74.3	73.4	72.9	68.1	136.4
63000	63.7	68.0	68.6	70.6	71.2	72.6	70.8	71.3	72.2	70.0	69.5	67.3	62.6	137.1
80000	55.4	64.0		64.3	64.7	66.5	64.6	64.6	66.8	65.2	63.4	60.4	53.2	137.7

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OASPL 99.2 101.0 100.7 100.1 99.0 98.4 99.6 99.9 102.2 107.5 108.0 104.2 100.3 148.0

PNL 109.1 110.2 109.2 108.1 107.8 106.8 109.5 110.8 114.4 118.9 119.7 115.7 110.4

PNLT 109.1 111.4 109.2 108.1 107.8 106.8 116.2 110.8 121.0 125.5 126.4 115.7 117.0

DBA 97.4 98.7 97.7 96.3 95.7 95.2 97.1 98.7 101.5 106.9 108.2 103.7 98.4

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH256 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.45 RELHUM = 75.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1682.5 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0202 TAPE = X0202C TEST PT NO = 0202 NC = AE060 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0202 X0202F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	75.5	75.7	74.3	75.1	74.2	73.7	85.1	70.6	74.6	84.6	81.6	84.0	83.6	122.0
315	75.5	75.6	74.3	75.1	74.3	73.9	83.0	72.9	75.9	80.8	84.5	85.7	83.3	121.6
400	75.3	75.6	74.3	75.2	74.4	73.9	81.2	72.5	77.3	83.1	88.0	87.9	84.7	123.2
500	75.3	75.6	74.4	75.2	74.4	74.0	79.7	75.0	78.4	86.3	91.2	90.0	86.2	125.3
630	75.3	76.2	74.8	75.2	75.7	75.0	75.5	75.9	82.8	90.2	95.9	93.4	92.7	129.3
800	75.3	77.4	77.1	76.7	77.9	77.2	78.3	79.0	84.9	92.2	97.5	96.0	96.5	131.6
1000	78.5	78.5	78.9	78.3	79.8	78.1	79.3	80.9	86.6	93.9	98.9	97.2	98.2	133.0
1250	81.4	79.7	80.2	80.1	82.1	81.6	82.2	82.7	88.5	93.9	99.1	96.9	98.9	133.4
1600	82.0	85.1	83.7	83.0	83.2	83.2	84.8	84.5	91.0	95.8	99.2	97.5	98.6	134.2
2000	83.2	83.3	83.7	83.3	84.3	83.8	86.1	87.5	92.5	97.8	98.3	97.1	98.0	134.4
2500	86.2	84.6	84.9	84.8	85.6	85.0	86.6	88.3	92.0	96.9	98.2	95.6	97.6	134.1
3150	86.5	87.1	87.5	85.9	85.8	85.7	87.5	88.3	93.8	96.6	96.6	96.2	98.2	134.3
4000	87.7	88.3	86.8	85.9	87.9	87.3	88.3	89.7	93.8	95.4	96.2	95.4	98.0	134.2
5000	92.0	91.0	89.4	87.7	88.7	87.9	88.9	90.0	91.9	93.0	93.7	94.5	98.0	133.9
6300	97.0	96.4	94.1	91.1	92.2	88.8	88.8	88.8	92.1	92.3	92.7	93.8	98.6	135.9
8000	96.2	97.5	95.0	93.1	92.1	90.5	88.9	88.0	91.7	92.4	92.3	94.6	99.3	136.8
10000	97.8	98.1	96.1	93.7	93.5	91.9	90.3	89.1	91.2	91.1	91.5	94.6	99.8	138.0
12500	97.8	99.2	98.0	95.0	94.4	92.5	90.8	89.2	91.1	90.1	91.3	94.1	99.6	139.5
16000	94.1	96.0	96.7	95.7	95.0	92.5	90.5	88.7	90.3	88.8	90.6	93.7	99.3	139.8
20000	92.6	95.1	94.7	95.1	92.8	91.8	90.8	87.4	91.1	89.4	89.5	92.6	97.3	140.4
25000	90.5	92.3	91.8	91.7	90.8	90.3	89.4	87.2	87.3	85.7	85.3	87.7	91.4	139.9
31500	86.8	89.7	89.3	89.4	86.9	86.2	84.1	82.5	85.1	82.5	82.7	84.9	87.7	139.8
40000	80.4	83.5	83.4	84.9	84.1	83.4	81.2	79.6	81.5	78.8	78.2	80.7	82.9	139.4
50000	75.9	80.1	79.9	80.4	80.0	79.5	77.4	75.4	78.5	75.9	75.6	76.4	78.5	140.0
63000	70.7	74.2	74.8	75.6	75.2	75.6	72.3	71.5	76.4	74.8	73.7	74.2	74.4	141.0
80000	64.5	68.1	67.9	68.8	69.3	69.5	67.0	66.4	66.6	65.0	63.9	64.4	64.6	141.0

ORIGINAL PAGE IS  
OF POOR QUALITY

OASPL 104.9 105.9 104.7 103.2 102.7 101.2 100.7 99.9 103.4 106.2 108.4 107.7 110.5 151.2  
 PNL 114.5 114.3 112.6 110.6 111.4 109.6 110.9 111.3 115.4 118.6 120.0 119.3 121.3  
 PNLT 114.5 115.5 112.6 110.6 111.4 109.6 110.9 111.3 115.4 118.6 120.0 119.3 121.3  
 DBA 186.6 190.2 190.2 191.0 191.2 191.4 188.7 187.9 190.0 188.2 187.2 187.8 188.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH256 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.45 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1682.5 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0202 TAPE = X0202F TEST PT NO = 0202 NC = AEO60 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0202 X02021

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.6	66.1	67.6	67.7	69.6	68.0	69.1	70.2	75.3	81.4	85.0	81.0	78.8	158.5
63	67.4	67.3	68.8	69.5	71.9	71.5	72.0	72.1	77.1	81.5	85.2	80.7	79.4	158.9
80	68.0	72.6	72.3	72.3	73.0	73.1	74.5	73.9	79.6	83.4	85.2	81.2	79.0	159.6
100	69.2	70.8	72.3	72.6	74.0	73.7	75.8	76.8	81.1	85.3	84.3	80.8	78.3	159.9
125	72.0	72.1	73.4	74.1	75.3	74.8	76.3	77.5	80.6	84.3	84.0	79.1	77.6	159.6
160	72.2	74.4	75.9	75.1	75.4	75.4	77.1	77.5	82.2	83.9	82.3	79.6	77.9	159.7
200	73.2	75.5	75.1	75.0	77.5	77.0	77.8	78.8	82.1	82.6	81.8	78.5	77.3	159.7
250	77.3	78.0	77.6	76.7	78.2	77.5	78.4	79.0	80.2	80.0	79.1	77.4	76.8	159.4
315	82.1	83.3	82.2	80.0	81.6	78.3	78.2	77.7	80.2	79.2	77.9	76.2	76.8	161.4
400	81.2	84.3	83.1	82.0	81.5	80.1	78.3	77.0	79.8	79.2	77.3	76.7	76.8	162.3
500	82.7	85.0	84.3	82.8	83.1	81.7	79.9	78.2	79.5	78.0	76.4	76.5	76.8	163.5
630	82.9	86.4	86.5	84.5	84.4	82.7	80.8	78.7	79.7	77.3	76.4	76.1	76.2	165.0
800	79.8	83.9	86.1	86.0	85.9	83.6	81.4	79.0	79.7	76.7	76.4	76.0	75.9	165.2
1000	79.2	84.1	85.2	86.6	84.9	84.1	82.9	79.0	81.6	78.4	76.1	75.7	74.1	165.9
1250	78.5	82.8	83.9	84.8	84.5	84.3	83.2	80.4	79.4	76.2	73.3	71.7	68.6	165.4
1600	76.2	81.9	83.3	84.6	82.7	82.3	79.9	77.7	79.1	74.7	72.1	69.9	64.9	165.3
2000	71.5	77.7	79.7	82.4	82.3	81.9	79.4	77.1	77.8	73.0	69.3	66.7	59.6	164.9
2500	67.8	75.7	77.9	79.9	80.4	80.1	77.7	74.9	76.5	71.5	67.5	62.2	53.0	165.5
3150	62.2	70.3	73.9	76.5	77.2	77.9	74.3	72.4	75.5	70.9	65.2	58.0	43.4	166.7
4000	53.5	63.2	66.8	70.1	71.9	72.5	69.6	67.7	65.6	60.0	52.8	43.0	22.8	166.4
5000														
6300														
8000														
10000														
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	90.5	93.8	94.3	94.3	94.0	93.0	91.7	90.2	92.5	93.3	93.5	90.3	89.0	176.6
PNL	96.5	100.9	102.1	103.0	103.0	102.4	100.6	98.7	100.5	98.1	96.1	93.6	91.9	
PNLT	96.5	100.9	102.1	103.0	103.0	102.4	100.6	98.7	101.5	99.2	97.3	94.8	93.1	
DBA	88.0	92.0	93.0	93.6	93.1	92.2	90.4	87.9	89.1	86.2	84.3	83.1	82.2	
MODEL AREA = 25.6 SQ CM ( 4.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 18.776 FREQ SHIFT = -13														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166														
VEHICL	=	ADH256	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX
1APLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	78.00	PAMB HG	=	29.45
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=	NBFR
FNINI	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1682.5 FPS	AE8	=	4.0 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	FPS	AE18	=	0. SQ IN
RUNPT = 82F-400-0202 TAPE = X02021 TEST PT NO = 0202 NC = AE060 CORR FAN SPEED = RPM														

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OF FOUR QUALITY157  
83-38113

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0205 X0205C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.0	81.8	81.1	80.4	80.5	78.6	79.7	84.6	89.1	89.7	89.0	97.0	89.9	129.5
63	84.4	90.7	87.7	86.3	89.6	86.5	87.6	93.5	96.2	96.3	95.4	103.6	95.8	136.4
80	84.4	88.7	86.0	86.8	85.9	87.5	88.6	88.8	89.0	89.3	90.7	94.1	95.5	131.2
100	84.7	90.8	86.5	89.1	89.9	89.3	90.2	91.8	90.5	92.8	94.7	98.2	100.3	134.4
125	81.2	85.4	87.2	88.4	89.3	89.7	90.8	91.2	91.5	94.3	99.2	102.3	103.0	136.7
150	83.2	81.2	85.7	85.3	85.9	86.0	91.4	89.8	90.2	94.8	100.2	103.9	105.5	137.8
200	84.3	84.1	84.6	85.9	87.5	88.6	90.8	92.9	94.9	96.9	102.1	106.0	108.2	140.0
250	82.8	87.6	87.1	87.6	87.2	89.1	92.0	94.1	95.6	101.9	107.5	110.0	110.4	143.6
315	83.6	87.2	87.2	88.6	90.3	91.4	94.6	94.7	98.2	103.7	109.1	111.8	111.7	145.2
400	83.5	87.3	88.5	89.0	90.2	90.3	101.9	95.3	99.3	107.1	111.5	113.2	112.3	147.0
500	85.0	87.8	88.6	90.0	90.9	91.8	94.7	96.1	100.8	108.4	113.8	114.4	112.6	148.3
630	85.4	88.7	90.2	91.4	92.4	93.0	94.9	97.0	101.2	110.0	114.7	115.4	113.8	149.3
800	88.4	90.5	91.8	92.7	93.9	94.2	96.4	99.0	103.3	110.3	116.0	116.1	113.5	150.2
1000	95.7	96.7	96.2	95.1	95.1	95.7	97.9	99.8	104.7	109.6	115.2	115.9	113.3	149.8
1250	93.8	98.1	98.3	99.5	99.5	99.3	100.0	101.4	105.1	109.4	114.8	115.2	113.2	149.7
1600	92.3	94.7	95.9	96.3	97.7	97.6	100.2	102.0	105.4	108.2	113.8	114.7	112.5	148.9
2000	97.3	97.7	97.8	96.3	96.6	97.4	99.9	102.2	105.6	108.1	112.9	113.5	110.5	148.1
2500	102.0	101.5	100.3	99.4	98.7	98.6	100.3	103.4	106.7	108.5	112.3	112.4	108.6	148.1
3150	101.6	102.4	103.2	102.0	100.1	99.6	101.5	103.2	105.5	107.9	113.1	110.8	107.3	148.1
4000	97.8	99.7	101.6	102.4	102.7	100.9	102.0	104.4	106.0	107.4	111.4	110.5	108.0	147.7
5000	96.3	98.3	99.3	100.1	102.1	102.6	102.7	104.3	106.7	106.6	111.2	110.5	108.5	147.7
6300	94.4	97.2	98.3	99.1	101.0	101.5	103.7	104.2	105.7	105.5	110.1	109.4	107.9	147.1
8000	92.8	96.8	97.7	98.6	98.6	100.4	102.3	104.2	104.9	105.2	108.0	107.5	106.1	146.2
10000	91.7	96.4	97.4	98.5	98.7	99.7	102.0	104.7	105.0	104.4	106.6	106.8	104.4	146.3
12500	90.1	94.1	96.0	96.9	97.5	98.8	99.8	102.3	103.8	101.9	104.7	104.8	102.6	145.3
16000	87.7	92.3	94.0	96.3	96.8	96.2	98.3	99.1	101.4	99.9	102.4	102.6	99.9	144.4
20000	85.8	89.4	91.5	94.1	94.7	95.5	96.3	96.6	98.9	96.7	100.6	99.9	98.1	144.0
25000	82.9	86.7	89.5	91.6	92.8	93.7	94.6	95.1	97.2	95.0	97.8	98.2	94.5	144.3
31500	76.3	81.1	83.6	86.8	87.2	88.8	89.3	89.8	92.6	90.7	93.8	93.7	89.0	142.7
40000	73.4	79.0	81.0	83.2	84.8	85.9	86.5	87.6	90.0	88.6	92.0	91.5	86.4	144.3
50000	69.8	75.0	77.3	79.5	81.7	82.7	82.9	84.4	88.0	87.0	90.8	89.4	82.3	146.3
63000	66.9	72.9	74.2	75.5	77.7	79.3	78.8	82.8	85.6	85.7	90.9	87.6	80.6	150.1
80000	64.4	70.7	72.7	71.0	73.5	75.9	74.7	78.2	83.4	85.2	90.8	85.6	73.9	155.5

GASPL 108.2 109.8 110.5 110.7 111.2 111.4 113.3 114.8 117.3 120.3 125.1 125.6 123.7 162.5

PNL 122.2 123.7 124.4 124.2 124.6 124.3 125.8 127.6 129.8 132.3 137.1 136.8 134.5

PNLT 123.8 124.4 124.4 125.5 125.6 124.3 127.0 127.6 129.8 132.3 137.1 136.8 134.5

DBA 108.7 109.9 110.5 110.5 110.7 110.7 112.5 114.2 116.9 119.8 124.7 124.9 122.6

NASA DUAL FLOW SHOCK CELL/CGAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH240	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
1APLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINI =	LBS XNL =	RPM XNH =	RPM V8 = 1689.6 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2046.5 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0205	TAPE = X0205C	TEST PT NO = 0205	NC = AE060	CORR FAN SPEED =	RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0205 X0205F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.0	81.8	81.1	80.4	80.5	78.6	79.7	84.6	89.1	89.7	89.0	97.0	89.9	129.5
63	84.4	90.7	87.7	86.3	89.6	86.5	87.6	93.5	96.2	96.3	95.4	103.6	95.8	136.4
80	84.4	88.7	86.0	86.8	85.9	87.5	88.6	88.8	89.0	89.3	90.7	94.1	95.5	131.2
100	84.7	90.8	86.5	89.1	89.9	89.3	90.2	91.8	90.5	92.8	94.7	98.2	100.3	134.4
125	81.2	85.4	87.2	88.4	89.3	89.7	90.8	91.2	91.5	94.3	99.2	102.3	103.0	136.7
160	83.2	81.2	85.7	85.3	85.9	86.0	91.4	89.8	90.2	94.8	100.2	103.9	105.5	137.8
200	84.3	84.1	84.6	85.9	87.5	88.6	90.8	92.9	94.9	96.9	102.1	106.0	108.2	140.0
250	82.8	87.6	87.1	87.6	87.2	89.1	92.0	94.1	95.6	101.9	107.5	110.0	110.4	143.6
315	83.6	87.2	87.2	88.6	90.3	91.4	94.6	94.7	98.2	103.7	109.1	111.8	111.7	145.2
400	83.5	87.3	88.5	89.0	90.2	90.3	101.9	95.3	99.3	107.1	111.5	113.2	112.3	147.0
500	85.0	87.8	88.6	90.0	90.9	91.8	94.7	96.1	100.8	108.4	113.8	114.4	112.6	148.3
630	85.4	88.7	90.2	91.4	92.4	93.0	94.9	97.0	101.2	110.0	114.7	115.4	113.8	149.3
800	88.4	90.5	91.8	92.7	93.9	94.2	96.4	99.0	103.3	110.3	116.0	116.1	113.5	150.2
1000	95.7	96.7	96.2	95.1	95.1	95.7	97.9	99.8	104.7	109.6	115.2	115.9	113.3	149.8
1250	93.8	98.1	98.3	99.5	99.5	99.3	100.0	101.4	105.1	109.4	114.8	115.2	113.2	149.7
1600	92.3	94.7	95.9	96.3	97.7	97.6	100.2	102.0	105.4	108.2	113.8	114.7	112.5	148.9
2000	97.3	97.7	97.8	96.3	96.6	97.4	99.9	102.2	105.6	108.1	112.9	113.5	110.5	148.1
2500	102.0	101.5	100.3	99.4	98.7	98.6	100.3	103.4	106.7	108.5	112.3	112.4	108.6	148.1
3150	101.6	102.4	103.2	102.0	100.1	99.6	101.5	103.2	105.5	107.9	113.1	110.8	107.3	148.1
4000	97.8	99.7	101.6	102.4	102.7	100.9	102.0	104.4	106.0	107.4	111.4	110.5	108.0	147.7
5000	96.3	98.3	99.9	100.1	102.1	102.6	102.7	104.3	106.7	106.6	111.2	110.5	108.5	147.7
6300	94.4	97.2	98.3	99.1	101.0	101.5	103.7	104.2	105.7	105.5	110.1	109.4	107.9	147.1
8000	92.8	96.8	97.7	98.6	98.6	100.4	102.3	104.2	104.9	105.2	108.0	107.5	106.1	146.2
10000	91.7	96.4	97.4	98.5	98.7	99.7	102.0	104.7	105.0	104.4	106.6	106.8	104.4	146.3
12500	90.1	94.1	96.0	96.9	97.5	98.8	99.8	102.3	103.8	101.9	104.7	104.8	102.6	145.3
16000	87.7	92.3	94.0	96.3	96.8	96.2	98.3	99.1	101.4	99.9	102.4	102.6	99.9	144.4
20000	85.8	89.4	91.5	94.1	94.7	95.5	96.3	96.6	98.9	96.7	100.6	99.9	98.1	144.0
25000	82.9	86.7	89.5	91.6	92.8	93.7	94.6	95.1	97.2	95.0	97.8	98.2	94.5	144.3
31500	76.3	81.1	83.6	86.8	87.2	88.8	89.3	89.8	92.6	90.7	93.8	93.7	89.0	142.7
40000	73.4	79.0	81.0	83.2	84.8	85.9	86.5	87.6	90.0	88.6	92.0	91.5	86.4	144.3
50000	69.8	75.0	77.3	79.5	81.7	82.7	82.9	84.4	88.0	87.0	90.8	89.4	82.3	146.3
63000	66.9	72.9	74.2	75.5	77.7	79.3	78.8	82.8	85.6	85.7	90.9	87.6	80.6	150.1
80000	64.4	70.7	72.7	71.0	73.5	75.9	74.7	78.2	83.4	85.2	90.8	85.6	73.9	155.5
ASPL	108.2	109.8	110.5	110.7	111.2	111.4	113.3	114.8	117.3	120.3	125.1	125.6	123.7	162.5
PNL	122.2	123.7	124.4	124.2	124.6	124.3	125.8	127.6	129.8	132.3	137.1	136.8	134.5	
PNLT	123.8	124.4	124.4	125.5	125.6	124.3	127.0	127.6	129.8	132.3	137.1	136.8	134.5	
DBA	185.3	191.5	193.4	192.4	194.8	197.0	196.0	199.5	204.2	205.8	211.3	206.3	195.8	

REMARKS: NOISE TEST  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH240 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VC = 1689.6 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2046.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0205 TAPE = X0205F TEST PT NO = 0205 NC = AE650 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0205 X02051

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.1	67.4	69.7	70.9	72.5	72.7	84.2	77.2	80.5	87.2	90.1	89.6	85.4	165.1
63	63.6	67.9	69.7	71.9	73.2	74.2	77.0	78.0	82.0	88.5	92.3	90.8	85.6	166.3
80	63.9	68.8	71.4	73.2	74.6	75.4	77.1	78.9	82.4	90.1	93.2	91.6	86.7	167.4
100	66.9	70.5	72.8	74.6	76.1	76.6	78.6	80.8	84.3	90.3	94.4	92.3	86.3	168.2
125	74.0	76.6	77.2	76.9	77.3	78.0	80.0	81.5	85.7	89.5	93.5	91.9	85.8	167.9
160	71.9	77.8	79.2	81.1	81.5	81.5	82.0	83.0	85.9	89.1	92.9	91.0	85.4	167.7
200	70.2	74.2	76.5	77.8	79.6	79.6	82.1	83.4	86.0	87.7	91.7	90.2	84.2	167.0
250	74.8	76.9	78.3	77.5	78.2	79.2	81.6	83.4	86.0	87.4	90.4	88.5	81.5	166.2
315	79.1	80.4	80.5	80.3	80.1	80.1	81.7	84.3	86.9	87.4	89.4	86.8	78.8	166.1
400	78.3	80.9	83.0	82.6	81.2	80.9	82.6	83.9	85.3	86.4	89.8	84.6	76.5	166.2
500	74.0	77.8	81.0	82.8	83.5	81.9	82.9	84.7	85.4	85.6	87.6	83.7	76.2	165.8
630	72.0	76.0	79.0	80.1	82.6	83.3	83.2	84.3	85.9	84.3	86.8	83.0	75.7	165.8
800	69.6	74.6	77.1	78.9	81.3	81.9	84.1	83.9	84.5	82.9	85.3	81.2	73.9	165.2
1000	67.5	73.9	76.3	78.2	78.8	80.7	82.5	83.8	83.5	82.2	82.7	78.6	71.0	164.3
1250	66.0	73.1	75.8	77.9	78.7	79.9	82.0	84.1	83.4	81.1	80.8	77.2	67.8	164.3
1600	63.4	70.3	73.9	76.0	77.3	78.8	79.6	81.4	81.7	78.1	78.1	73.8	63.7	163.3
2000	60.1	67.9	71.6	75.2	76.3	76.1	77.9	78.0	79.0	75.4	74.8	69.9	57.9	162.5
2500	56.4	63.7	68.2	72.3	73.7	74.8	75.3	74.8	75.6	71.0	71.2	64.5	51.2	162.0
3150	50.1	58.6	64.3	68.3	70.5	71.7	72.2	71.7	72.0	66.9	65.0	57.7	39.2	162.3
4000	37.3	48.2	54.6	60.2	61.8	63.9	63.9	63.2	63.6	57.9	54.8	44.3	19.2	160.7
5000	24.6	38.6	45.7	51.1	54.4	56.1	56.1	55.5	54.8	48.2	43.3	28.4		162.3
6300	3.3	20.3	30.0	36.6	41.3	43.0	42.5	41.5	40.7	32.3	24.2	2.1		164.4
8000			5.5	13.4	19.1	21.9	20.2	20.7	17.0	6.2				168.1
10000														173.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	84.8	88.1	90.0	91.0	91.8	92.1	94.0	95.0	96.9	99.2	102.5	100.5	94.7	180.3
PNL	90.0	94.1	96.7	98.0	99.1	99.7	101.1	102.2	103.3	103.0	105.5	102.4	95.3	
PNLT	90.8	94.1	96.7	98.6	99.6	99.7	101.1	102.2	103.8	103.6	105.5	103.6	95.3	
DBA	79.6	83.6	86.2	87.7	88.8	89.4	90.8	92.0	92.6	91.6	93.6	90.2	82.9	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH240	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1689.6 FPS	AE8 = 4.0 SQ IN	
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2046.5 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0205	TAPE = X02051	TEST PT NO = 0205	NC = AE060	CORR FAN SPEED =	RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0209 X0209C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.3	80.8	80.3	79.9	82.2	80.6	87.0	87.1	88.3	89.7	97.8	97.2	96.4	132.3
63	88.7	87.5	86.7	86.6	90.9	88.7	95.9	96.3	95.2	97.8	105.2	103.9	102.8	139.6
80	85.9	90.5	87.2	88.3	87.9	89.2	90.9	89.8	90.7	93.1	93.2	95.9	97.3	133.2
100	86.5	92.8	88.3	91.1	91.4	90.8	92.2	93.8	92.3	96.8	97.2	100.2	102.3	136.6
125	82.9	87.4	89.2	90.7	91.3	92.0	93.1	93.2	93.7	98.3	101.4	104.8	106.0	139.3
160	84.4	82.7	87.2	87.1	88.1	87.7	93.4	91.0	92.2	98.5	102.7	105.9	108.0	140.1
200	85.6	85.4	86.6	87.7	89.5	90.9	93.8	93.9	96.9	99.9	104.1	108.0	110.2	142.1
250	84.3	89.3	88.8	89.4	89.5	90.1	94.0	95.9	97.8	105.4	109.3	112.0	112.1	145.6
315	85.4	88.7	88.4	89.9	92.3	93.2	97.1	96.2	99.9	107.7	110.6	113.8	114.0	147.4
400	85.5	89.3	90.0	90.7	92.2	92.0	103.7	96.8	100.8	110.6	113.5	115.7	114.3	149.4
500	87.0	89.0	90.1	91.8	92.2	93.5	96.2	97.6	102.8	112.1	115.0	116.2	114.6	150.2
630	87.7	90.5	92.0	92.9	93.6	94.5	96.1	99.0	103.5	113.8	116.7	116.9	115.3	151.4
800	90.4	92.2	93.8	94.2	95.4	95.2	97.9	100.8	104.8	114.1	117.7	117.4	115.5	152.1
1000	97.2	97.2	97.5	96.4	96.4	97.0	99.1	101.8	106.5	113.6	117.2	117.4	116.0	152.0
1250	95.8	100.1	101.1	101.0	101.0	100.3	101.0	102.9	106.8	112.9	116.5	117.7	116.0	152.0
1600	95.0	96.2	97.4	98.1	99.2	99.6	101.4	103.5	107.9	111.7	116.1	117.0	115.0	151.3
2000	99.3	98.7	97.8	97.8	98.1	98.9	101.7	103.7	107.8	111.4	115.1	115.2	112.2	150.3
2500	101.0	101.0	100.8	99.9	99.7	99.8	101.3	104.9	109.0	113.0	115.0	113.1	109.1	150.2
3150	99.4	100.4	101.2	101.0	101.1	100.6	102.8	104.7	108.0	111.9	115.1	111.1	107.8	149.7
4000	96.8	98.2	100.1	100.7	102.2	102.2	102.3	105.4	108.0	110.9	113.2	109.7	107.5	148.9
5000	96.8	98.0	99.4	99.6	101.1	101.8	102.9	104.8	108.5	110.1	112.7	109.7	107.7	148.7
6300	95.9	98.7	99.8	99.8	100.7	101.0	104.0	105.4	107.2	109.0	111.3	109.1	106.9	148.2
8000	95.5	99.3	99.7	99.9	99.8	100.4	102.1	105.2	107.1	108.4	109.7	107.5	106.9	147.7
10000	94.0	98.4	99.9	100.5	100.5	101.2	102.2	104.9	106.0	107.4	108.1	106.6	105.4	147.5
12500	92.3	95.1	98.5	99.9	99.5	100.3	100.6	103.3	105.1	104.7	105.7	105.3	103.8	146.7
16000	89.7	94.1	95.7	97.8	98.3	98.5	99.3	101.1	102.9	102.2	104.7	102.8	101.1	146.1
20000	88.1	91.4	93.3	96.1	96.2	97.2	98.0	98.4	99.9	99.4	102.1	100.4	98.8	145.5
25000	84.6	89.0	91.2	93.4	94.1	95.2	96.1	96.6	99.0	98.0	100.3	98.7	95.0	146.0
31500	78.5	84.1	86.1	89.1	89.4	90.0	90.5	91.8	94.6	94.2	96.1	93.9	89.2	144.6
40000	75.4	81.0	83.5	85.9	86.8	87.6	88.0	89.3	92.0	92.1	94.8	92.2	86.6	146.4
50000	71.6	78.0	79.8	82.0	83.2	84.7	84.9	85.6	90.0	92.0	92.8	89.9	84.1	148.6
63000	67.9	74.9	76.4	78.5	79.9	81.1	81.5	83.8	88.9	90.2	93.7	87.8	81.1	152.8
80000	64.2	72.7	74.5	74.0	75.7	78.1	77.5	79.5	86.2	90.0	93.5	86.6	76.4	158.5
CASPL	108.5	110.2	111.1	111.5	112.0	112.3	114.3	116.1	119.2	123.9	127.0	127.1	125.6	164.7
PNL	122.0	123.3	124.0	124.1	124.9	125.1	126.8	128.8	131.8	136.1	139.1	137.9	136.1	
PNLT	123.4	124.4	125.2	125.3	126.0	125.1	127.9	128.8	131.8	136.1	139.1	137.9	136.1	
DBA	108.7	110.0	110.7	110.7	111.3	111.5	113.3	115.5	118.9	123.5	126.6	126.3	124.4	

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH241 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2197.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0209 TAPE = X0209C TEST PT NO = 0209 NC = AE060 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0209 X0209F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.3	80.8	80.3	79.9	82.2	80.6	87.0	87.1	88.3	89.7	97.8	97.2	96.4	132.3
63	88.7	87.5	86.7	86.6	90.9	88.7	95.9	96.3	95.2	97.8	105.2	103.9	102.8	139.6
80	85.9	90.5	87.2	88.3	87.9	89.2	90.9	89.8	90.7	93.1	93.2	95.9	97.3	133.2
100	86.5	92.8	88.3	91.1	91.4	90.8	92.2	93.8	92.3	96.8	97.2	100.2	102.3	136.6
125	82.9	87.4	89.2	90.7	91.3	92.0	93.1	93.2	93.7	98.3	101.4	104.8	106.0	139.3
160	84.4	82.7	87.2	87.1	88.1	87.7	93.4	91.0	92.2	98.5	102.7	105.9	108.0	140.1
200	85.6	85.4	86.6	87.7	89.5	90.9	93.8	93.9	96.9	99.9	104.1	108.0	110.2	142.1
250	84.8	87.3	88.8	89.4	89.5	90.1	94.0	95.9	97.8	105.4	109.3	112.0	112.1	145.6
315	85.4	88.7	88.4	89.9	92.3	93.2	97.1	96.2	99.9	107.7	110.6	113.8	114.0	147.4
400	85.5	89.3	90.0	90.7	92.2	92.0	103.7	96.8	100.8	110.6	113.5	115.7	114.3	149.4
500	87.0	89.0	90.1	91.8	92.2	93.5	96.2	97.6	102.8	112.1	115.0	116.2	114.6	150.2
630	87.7	90.5	92.0	92.9	93.6	94.5	96.1	99.0	103.5	113.8	116.7	116.9	115.3	151.4
800	90.4	92.2	93.8	94.2	95.4	95.2	97.9	100.8	104.8	114.1	117.7	117.4	115.5	152.1
1000	97.2	97.2	97.5	96.4	96.4	97.0	99.1	101.8	106.5	113.6	117.2	117.4	116.0	152.0
1250	95.8	100.1	101.1	101.0	101.0	100.3	101.0	102.9	105.8	112.9	116.5	117.7	116.0	152.0
1600	95.0	96.2	97.4	98.1	99.2	99.6	101.4	103.5	107.9	111.7	116.1	117.0	115.0	151.3
2000	99.3	98.7	97.8	97.8	98.1	98.9	101.7	103.7	107.8	111.4	115.1	115.2	112.2	150.3
2500	101.0	101.0	100.8	99.9	99.7	99.8	101.3	104.9	109.0	113.0	115.0	113.1	109.1	150.2
3150	99.4	100.4	101.2	101.0	101.1	100.6	102.8	104.7	108.0	111.9	115.1	111.1	107.8	149.7
4000	96.8	98.2	100.1	100.7	102.2	102.2	102.3	105.4	108.0	110.9	113.2	109.7	107.5	148.9
5000	96.8	98.0	99.4	99.6	101.1	101.8	102.9	104.8	108.5	110.1	112.7	109.7	107.7	148.7
6300	95.9	98.7	99.8	99.8	100.7	101.0	104.0	105.4	107.2	109.0	111.3	109.1	106.9	148.2
8000	95.5	99.3	99.7	99.9	99.8	100.4	102.1	105.2	107.1	108.4	109.7	107.5	106.9	147.7
10000	94.0	98.4	99.9	100.5	100.5	101.2	102.2	104.9	106.0	107.4	108.1	106.6	105.4	147.5
12500	92.3	95.1	98.5	99.9	99.5	100.3	100.6	103.3	105.1	104.7	105.7	105.3	103.8	146.7
16000	89.7	94.1	95.7	97.8	98.3	98.5	99.3	101.1	102.9	102.2	104.7	102.8	101.1	146.1
20000	88.1	91.4	93.3	96.1	96.2	97.2	98.0	98.4	99.9	99.4	102.1	100.4	98.8	145.5
25000	84.6	89.0	91.2	93.4	94.1	95.2	96.1	96.6	99.0	98.0	100.3	98.7	95.0	146.0
31500	78.5	84.1	86.1	89.1	89.4	90.0	90.5	91.8	94.6	94.2	96.1	93.9	89.2	144.6
40000	75.4	81.0	83.5	85.9	86.8	87.6	88.0	89.3	92.0	92.1	94.8	92.2	86.6	146.4
50000	71.6	78.0	79.8	82.0	83.2	84.7	84.9	85.6	90.0	92.0	92.8	89.9	84.1	148.8
63000	67.9	74.9	76.4	78.5	79.9	81.1	81.5	83.8	88.9	90.2	93.7	87.8	81.1	152.8
80000	64.2	72.7	74.5	74.0	75.7	78.1	77.5	79.5	86.2	90.0	93.5	86.6	76.4	158.5

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CASFL 108.5 110.2 111.1 111.5 112.0 112.3 114.3 116.1 119.2 123.9 127.0 127.1 125.6 164.7  
PNL 122.0 123.3 124.0 124.1 124.9 125.1 126.8 128.8 131.8 136.1 139.1 137.9 136.1  
PNLT 123.4 124.4 125.2 125.3 126.0 125.1 127.9 128.8 131.8 136.1 139.1 137.9 136.1  
DBA 185.4 193.5 195.3 195.3 197.0 199.1 198.7 200.7 207.0 210.5 214.0 207.2 197.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH241 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2197.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0209 TAPE = X0209F TEST PT NO = 0209 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0209 X02091

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.1	69.4	71.2	72.6	74.5	74.5	86.0	78.7	82.0	90.7	92.1	92.1	87.4	167.4
63	65.6	69.1	71.2	73.7	74.5	76.0	78.5	79.5	84.0	92.2	93.6	92.5	87.6	168.2
80	66.2	70.5	73.1	74.7	75.9	76.9	78.4	80.9	84.6	93.9	95.2	93.1	88.2	169.5
100	68.9	72.2	74.8	76.1	77.6	77.6	80.1	82.6	85.8	94.1	96.1	93.6	88.3	170.1
125	75.5	77.1	78.5	78.1	78.5	79.3	81.3	83.5	87.5	93.5	95.5	93.4	88.5	170.1
160	73.9	79.8	81.9	82.6	83.0	82.5	83.0	84.5	87.7	92.6	94.7	93.5	88.1	170.0
200	72.9	75.7	78.0	79.5	81.1	81.6	83.3	84.9	88.5	91.2	93.9	92.4	86.7	169.3
250	76.8	77.9	78.3	79.0	79.7	80.7	83.3	84.9	88.3	90.6	92.7	90.2	83.2	168.3
315	78.1	79.9	81.0	80.8	81.1	81.4	82.7	85.8	89.1	91.9	92.2	87.6	79.3	168.3
400	76.0	78.9	81.0	81.6	82.2	81.9	83.9	85.4	87.8	90.4	91.8	84.9	77.0	167.8
500	73.0	76.3	79.5	81.0	83.0	83.1	83.1	85.7	87.4	89.1	89.3	82.9	75.7	166.9
630	72.5	75.8	78.5	79.6	81.6	82.5	83.5	84.8	87.6	87.8	88.3	82.2	74.9	166.7
800	71.1	76.1	78.6	79.6	81.1	81.4	84.3	85.2	86.0	86.4	86.5	80.9	72.9	166.2
1000	70.3	76.4	78.3	79.5	80.0	80.7	82.3	84.8	85.7	85.5	84.4	78.6	71.7	165.7
1250	68.2	75.1	78.3	79.9	80.5	81.4	82.2	84.3	84.4	84.1	82.3	76.9	68.8	165.5
1600	65.7	71.3	76.4	79.0	79.3	80.3	80.3	82.4	83.0	80.8	79.1	74.3	64.9	164.7
2000	62.1	69.6	73.3	76.7	77.8	78.3	78.9	80.0	80.5	77.7	77.1	70.1	59.2	164.1
2500	58.7	65.7	70.0	74.3	75.2	76.5	77.1	76.6	73.7	72.7	65.0	52.0	163.5	
3150	51.9	60.8	66.0	70.0	71.7	73.2	73.7	73.2	73.8	69.9	67.5	58.2	39.7	164.1
4000	39.5	51.2	57.1	62.4	64.1	65.1	65.2	65.2	65.6	61.4	57.1	44.5	19.5	162.6
5000	26.6	40.6	48.2	53.8	56.4	57.9	57.6	57.2	56.8	51.7	46.0	29.1		164.4
6300	5.0	23.3	32.5	39.1	42.8	45.0	44.5	42.8	42.7	37.3	26.2	2.6		166.6
8000			7.8	16.4	21.4	23.7	23.0	21.7	20.2	10.7				170.8
10000														176.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	85.1	88.4	90.8	91.6	92.6	93.0	95.0	96.3	98.8	102.9	104.4	102.2	96.8	162.5
PNL	90.2	94.1	97.2	99.3	100.4	101.0	102.2	103.4	105.0	106.8	107.4	103.8	97.1	
PNLT	90.9	94.7	97.8	100.0	100.9	101.0	102.2	103.4	105.0	107.5	107.4	105.0	97.1	
DBA	79.8	84.2	86.9	88.5	89.5	90.2	91.3	93.0	94.4	95.1	95.5	90.8	84.0	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH241 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1689.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2197.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0209 TAPE = X02091 TEST PT NO = 0209 NC = AE060 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0210 X0210C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	83.1	78.8	80.4	80.7	78.6	78.2	83.9	84.3	91.9	88.8	89.0	98.1	129.4
63	88.4	89.2	84.5	83.6	86.9	85.7	86.1	91.0	87.2	101.0	90.2	90.4	97.8	134.3
80	85.7	90.0	86.5	87.5	87.1	88.5	89.9	89.3	89.7	89.6	90.9	93.4	99.8	132.6
100	85.5	90.8	86.5	88.8	90.2	89.8	90.9	92.1	90.3	91.3	94.7	98.4	102.3	135.0
125	82.9	85.4	87.2	89.4	89.6	89.7	91.6	90.7	90.0	92.5	98.7	101.8	105.0	136.9
160	82.2	79.7	85.2	85.1	85.9	84.7	91.6	87.0	88.5	93.3	99.9	103.1	106.5	137.7
200	83.6	82.4	82.9	83.7	85.0	86.9	90.8	89.9	92.6	94.4	100.6	104.8	107.9	139.0
250	80.8	83.6	83.3	85.1	85.5	86.6	90.5	91.9	93.1	99.1	106.0	108.5	108.6	141.9
315	82.6	83.9	84.9	85.9	87.1	87.9	93.8	92.2	95.4	101.7	107.1	110.1	109.0	143.1
400	82.5	84.8	86.0	87.2	88.2	88.5	100.2	92.6	97.5	104.8	109.7	110.7	106.8	144.5
500	83.7	85.5	86.3	88.3	89.2	90.0	93.2	94.3	99.1	107.1	112.5	110.9	104.3	145.8
630	84.2	86.2	88.0	88.8	90.4	91.7	93.4	96.0	99.7	108.5	112.7	109.9	100.3	145.8
800	85.9	86.7	88.7	90.0	91.6	92.7	95.4	98.3	102.5	109.3	113.4	108.1	97.0	146.3
1000	89.2	88.7	90.5	91.6	92.4	93.5	96.4	99.0	103.7	108.8	112.2	106.6	96.3	145.6
1250	89.0	92.1	92.1	93.2	93.4	95.1	97.9	99.9	104.1	108.1	111.3	103.7	95.7	144.9
1600	93.3	92.2	92.3	93.6	94.7	96.1	98.9	101.5	105.6	107.2	110.0	102.0	94.7	144.6
2000	98.8	97.4	97.1	95.2	95.1	96.2	99.7	102.2	105.6	107.4	107.6	100.5	95.2	144.2
2500	99.5	100.8	101.1	100.1	98.4	97.1	99.5	103.9	107.2	109.3	108.3	100.8	94.6	145.9
3150	97.1	98.4	99.7	100.2	101.5	99.9	101.0	103.2	105.3	108.6	109.4	101.5	95.6	145.8
4000	94.0	94.9	97.1	99.2	100.4	100.9	101.3	103.3	105.7	106.9	107.9	101.2	95.2	145.0
5000	94.3	95.3	95.6	96.3	98.1	100.0	102.2	103.5	106.0	107.3	107.9	100.7	95.2	145.1
6300	93.7	95.2	96.1	96.3	97.2	97.7	102.0	103.4	105.2	105.8	106.8	100.4	94.9	144.5
8000	92.8	94.6	95.2	96.1	96.1	97.1	100.6	103.4	104.6	104.7	104.7	98.7	93.1	143.9
10000	91.8	94.2	95.2	96.2	97.0	98.0	99.7	102.9	103.8	104.9	104.4	99.4	93.4	144.2
12500	90.3	92.2	94.2	95.4	95.3	96.8	98.9	101.5	102.6	102.5	101.8	98.4	93.1	143.4
16000	87.3	90.9	92.3	94.1	94.6	94.6	97.4	99.2	101.0	100.2	100.0	96.4	91.7	142.9
20000	85.2	88.2	90.1	91.9	92.8	93.6	95.4	95.7	97.5	97.0	97.0	93.8	89.7	141.9
25000	82.2	86.4	87.4	89.8	90.5	92.3	93.7	94.7	96.6	94.9	93.7	89.8	85.6	142.5
31500	76.2	80.5	81.3	85.3	85.6	87.0	87.9	89.0	90.8	89.7	88.3	84.1	78.6	140.1
40000	72.5	76.7	78.4	81.1	81.9	83.3	84.6	85.7	87.5	85.9	84.5	79.9	74.0	140.5
50000	68.9	73.0	74.6	77.0	78.2	80.0	79.9	80.9	83.8	82.5	80.6	75.4	69.4	141.0
63000	64.2	69.9	69.9	71.7	72.9	75.3	74.8	77.0	80.1	80.1	78.4	69.6	63.3	142.5
80000	58.3	67.1	65.4	65.0	67.1	69.2	68.6	70.5	75.3	77.3	72.3	62.4	54.0	144.4

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GASPL 106.2 107.3 107.9 108.5 109.1 109.6 112.1 114.1 116.7 119.7 122.3 119.2 116.6 158.5  
PNL 119.9 121.1 121.6 122.0 122.9 123.0 124.9 126.7 129.5 132.3 133.9 128.6 124.4  
PNLT 119.9 122.5 121.6 122.0 122.9 123.0 126.0 126.7 129.5 132.3 133.9 128.6 124.4  
DBA 106.5 107.2 107.9 108.2 108.8 109.0 111.4 113.7 116.5 119.3 121.5 116.5 110.6

NASA DUAL FLOW SHOCK CELL/CGAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH258 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 88.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

PNINT = LBS XML = RPM XNH = RPM V8 = 1703.0 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2194.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0210 TAPE = X0210C TEST PT NO = 0210 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0210 X0210F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	87.8	89.4	87.9	88.2	87.0	86.6	88.6	88.3	92.0	97.4	102.2	105.6	106.4	139.3
315	87.8	89.4	87.9	88.2	88.8	88.1	92.5	89.4	95.0	101.5	105.9	107.6	106.3	141.4
400	89.9	90.1	89.7	89.2	90.0	88.8	99.3	90.5	97.3	105.0	110.5	110.4	107.3	144.7
500	90.2	91.2	91.0	90.6	91.1	90.4	92.4	92.5	97.8	106.2	110.7	110.0	105.2	144.6
630	91.4	91.9	91.3	91.8	92.3	92.1	92.4	93.9	100.7	107.2	111.8	109.3	104.5	145.2
800	91.8	92.6	93.0	92.4	93.7	93.3	94.4	96.1	102.6	107.5	111.6	109.5	106.6	145.6
1000	93.6	93.2	93.8	93.6	94.5	94.1	95.6	97.1	103.0	106.9	110.7	106.6	106.1	144.7
1250	96.4	94.9	95.4	95.2	95.7	95.9	97.3	98.0	104.7	106.1	109.6	105.0	105.3	144.4
1600	96.5	98.4	97.2	96.9	97.0	97.1	98.5	99.8	105.2	106.8	107.8	104.1	106.4	144.4
2000	99.4	97.6	96.9	97.0	97.2	97.5	99.6	100.9	106.9	108.6	108.2	104.2	105.5	145.4
2500	105.5	103.0	101.5	98.4	100.8	98.7	99.7	102.7	105.7	108.9	110.3	106.0	107.7	146.9
3150	105.6	105.9	105.2	103.3	104.8	101.9	101.7	102.7	106.9	107.8	109.5	106.2	107.7	147.8
4000	104.5	105.0	105.2	104.6	104.1	103.5	102.6	103.5	107.2	108.3	109.5	105.7	107.7	148.0
5000	101.6	101.7	102.8	103.9	102.1	103.0	103.9	103.8	106.8	107.2	109.0	105.9	107.8	147.4
6300	101.7	102.0	101.5	101.1	101.3	100.7	104.0	104.1	106.5	106.3	107.0	104.5	106.3	146.6
8000	101.0	101.8	101.7	101.0	100.1	100.1	102.7	104.2	106.0	106.8	107.0	105.4	106.8	146.9
10000	99.9	101.0	100.7	100.6	101.0	101.0	101.8	103.8	106.0	105.7	105.5	105.3	107.1	147.0
12500	98.6	100.3	100.4	100.5	99.4	99.8	101.3	103.1	104.9	103.9	104.1	103.5	105.8	146.7
16000	96.7	97.8	99.0	99.2	98.6	97.6	99.8	100.8	101.6	100.5	100.5	100.0	102.8	145.5
20000	93.2	96.1	96.6	97.4	96.8	96.6	97.6	97.2	101.9	100.1	99.4	98.7	101.5	145.9
25000	90.5	92.8	93.8	94.7	95.1	95.3	96.2	96.5	96.3	95.1	94.3	93.6	95.4	144.9
31500	89.6	92.4	92.0	92.8	90.2	90.0	90.3	90.5	93.7	91.9	91.2	90.1	91.8	144.6
40000	82.7	85.7	85.1	87.5	86.5	86.3	87.0	87.1	90.1	88.5	87.3	85.6	87.3	144.1
50000	78.6	81.5	81.8	82.9	82.8	83.0	82.2	82.1	86.2	85.7	84.3	78.5	79.2	144.5
63000	74.0	76.9	77.1	77.9	77.5	78.3	76.5	77.3	82.9	84.3	79.6	72.8	71.3	145.9
80000	67.8	72.3	70.8	71.1	71.7	72.2	70.3	70.7	73.1	74.5	69.8	63.0	61.5	144.9
CASPL	112.9	113.0	112.8	112.3	112.3	111.7	113.1	113.9	117.5	119.3	121.7	119.6	119.3	159.8
PNL	126.0	126.2	125.7	125.1	125.3	124.4	125.0	125.7	129.6	131.4	133.2	130.5	131.2	
PNLT	126.0	126.2	125.7	125.1	125.3	124.4	126.2	125.7	129.6	131.4	133.2	130.5	131.2	
DBA	189.8	193.8	192.9	193.4	193.6	194.1	192.4	192.9	196.6	197.8	193.4	187.1	186.4	
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166														
VEHICL	= ADH258				TEST DATE = 08-24-82				LOCAT = C41 ANECH CH				CONFIG = 2	
IAPLHA	= SB59				IEGA = NO				PWL AREA = FULL SPHERE				TAMB F = 71.00	
WIND DIR	=				DEG WIND VEL =				MPH EXT DIST = 40.0 FT				EXT CONFIG = ARC	
FNIN1	=				LBS XNL =				RPM XNH =				V8 = 1703.0 FPS	
FNRMB	=				LBS XNLR =				RPM XNHR =				V18 = 2194.2 FPS	
AE8 = 4.0 SQ IN														
AE18 = 18.0 SQ IN														
RUNPT = 82F-400-0210 TAPE = X0210F TEST PT NO = 0210 NC = AE060 CORR FAN SPEED = RPM														

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0210 X02101

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.5	70.2	70.9	71.1	72.3	71.2	81.6	72.4	78.5	85.1	89.1	86.8	80.4	162.7
63	68.7	71.3	72.2	72.5	73.4	72.8	74.7	74.4	79.0	86.3	89.2	86.3	78.2	162.6
80	69.9	72.0	72.4	73.6	74.6	74.5	74.7	75.7	81.9	87.3	90.3	85.6	77.4	163.3
100	70.3	72.6	74.1	74.2	75.9	75.6	76.7	77.9	83.7	87.5	90.0	85.7	79.3	163.6
125	71.9	73.1	74.8	75.3	76.6	76.4	77.8	78.8	84.0	86.8	89.0	82.6	78.6	162.8
160	74.6	74.7	76.3	76.8	77.7	78.0	79.4	79.6	85.6	85.8	87.7	80.8	77.4	162.4
200	74.3	78.0	77.8	78.3	78.8	79.1	80.4	81.3	85.9	86.3	85.7	79.6	78.1	162.5
250	77.0	76.9	77.3	78.2	78.9	79.3	81.2	82.2	87.3	87.9	85.8	79.2	76.5	163.4
315	82.7	82.0	81.6	79.4	82.2	80.2	81.1	83.7	85.8	87.8	87.5	80.5	77.9	164.9
400	82.2	84.4	85.0	83.9	85.9	83.1	82.8	83.3	86.7	86.4	86.1	80.1	76.9	165.8
500	80.7	83.1	84.6	84.9	85.0	84.5	83.4	83.8	86.7	86.4	85.7	78.9	75.9	166.0
630	77.2	79.4	81.9	83.9	82.7	83.8	84.4	83.9	85.9	84.9	84.6	78.4	75.0	165.4
800	76.9	79.3	80.3	80.9	81.6	81.2	84.3	83.8	85.4	83.7	82.2	76.3	72.4	164.7
1000	75.7	78.9	80.3	80.6	80.3	80.5	82.9	83.8	84.6	83.9	81.7	76.5	71.7	164.9
1250	74.1	77.7	79.1	80.1	81.0	81.2	81.9	83.2	84.4	82.4	79.8	75.6	70.6	165.0
1600	72.0	76.4	78.4	79.6	79.1	79.8	81.0	82.2	82.8	80.0	77.4	72.5	66.8	164.7
2000	69.1	73.3	76.5	78.0	78.0	77.4	79.4	79.7	79.2	76.0	72.8	67.4	60.8	163.6
2500	63.8	70.4	73.3	75.6	75.9	75.9	76.6	75.4	78.6	74.4	70.0	63.2	54.7	163.9
3150	57.7	64.7	68.6	71.3	72.7	73.3	73.8	73.1	71.1	67.0	61.6	53.1	40.2	163.0
4000	50.6	59.6	63.0	66.2	64.9	65.1	65.0	63.8	64.7	59.0	52.2	40.7	22.1	162.6
5000	33.9	45.3	49.8	55.4	56.2	56.5	56.7	55.0	54.8	48.1	38.5	22.5		162.2
6300	12.1	26.9	34.5	40.1	42.4	43.4	41.8	39.2	38.9	31.1	17.7			162.5
8000			8.4	15.8	19.0	20.9	18.0	15.2	14.3	4.9				163.9
10000														163.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	89.1	90.9	92.1	92.4	93.0	92.5	93.7	94.1	97.0	98.0	99.0	94.2	88.9	177.7
PNL	95.1	97.9	99.2	100.2	100.6	100.4	101.6	102.0	103.9	103.0	102.4	96.4	91.9	
PNLT	96.2	98.9	99.8	100.2	101.2	100.9	101.6	102.0	103.9	103.5	102.4	96.4	91.9	
DBA	85.3	87.9	89.4	90.1	90.4	90.2	91.4	91.8	93.4	92.3	91.1	85.2	81.4	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH258      TEST DATE = 08-24-82      LOCAT = C41 ANECH CH      CONFIG = 2      MODEL = AX      FLTVEL = 400. FPS  
IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 71.00      PAMB HG = 29.40      RELHUM = 88.3 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1703.0 FPS      AE8 =      4.0 SQ IN  
FNANB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2194.2 FPS      AE18 =      18.0 SQ IN

RUNPT = 82F-400-0210      TAPE = X02101      TEST PT NO = 0210      NC = AE060      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0211 X0211C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.5	82.3	81.3	87.1	87.7	87.3	87.0	87.1	89.1	90.7	97.8	97.2	97.6	133.1
75	91.2	91.2	88.5	94.3	96.1	96.0	96.1	95.0	96.5	98.3	105.4	104.1	104.8	140.7
80	86.9	91.7	88.5	89.0	89.6	90.7	92.4	91.3	91.7	92.3	94.2	96.9	99.0	134.3
100	88.2	94.0	89.8	92.8	93.7	92.8	93.7	95.1	93.8	96.8	98.7	101.9	104.1	138.1
125	84.2	88.2	90.2	91.4	92.3	93.0	94.1	94.0	94.0	97.8	102.4	105.8	106.8	140.0
160	85.4	84.0	88.2	89.3	89.6	89.7	95.9	92.0	92.7	98.3	103.9	107.1	109.5	141.4
200	86.3	86.9	87.6	90.2	91.0	92.6	94.5	95.2	97.6	100.4	105.6	109.3	111.4	143.3
250	86.0	90.1	89.8	90.9	91.0	92.1	95.5	97.1	98.6	105.6	111.0	113.5	113.6	147.0
315	86.4	89.7	89.2	92.4	94.1	94.7	97.8	97.7	100.9	108.0	112.6	115.3	115.0	148.7
400	87.0	90.5	91.3	92.2	93.4	93.3	105.2	98.1	102.5	111.1	115.2	117.2	115.1	150.7
500	88.5	90.8	91.6	93.3	93.9	95.0	97.4	99.1	104.3	112.6	116.8	117.4	115.6	151.5
630	89.7	91.7	93.7	94.1	95.1	96.2	97.6	99.8	104.2	114.5	118.2	118.4	117.0	152.8
800	92.2	94.2	95.3	96.0	96.9	97.5	99.4	102.3	107.0	114.8	119.5	118.6	117.0	153.5
1000	100.2	100.2	99.7	98.6	98.4	98.2	100.4	103.3	108.5	114.3	118.9	119.1	117.8	153.6
1250	99.3	104.3	103.6	104.0	104.0	103.3	103.5	104.1	109.6	115.2	119.5	120.2	118.5	154.6
1600	102.8	101.4	101.4	100.8	101.7	101.8	103.7	105.5	109.9	112.9	118.8	119.0	117.0	153.5
2000	108.3	106.4	105.6	102.8	100.3	100.4	103.2	105.7	109.8	112.9	118.4	117.7	114.0	153.0
2500	107.8	108.0	108.8	108.1	106.2	102.1	103.3	106.6	111.0	114.0	117.8	115.9	111.6	153.1
3150	104.1	105.9	107.2	107.2	108.3	106.6	105.0	106.5	110.3	113.6	118.1	113.8	110.1	152.8
4000	101.3	102.5	104.1	105.2	107.2	107.7	106.3	107.4	110.0	113.7	115.7	112.2	109.0	151.7
5000	100.8	102.5	103.4	103.8	104.3	105.8	107.7	107.8	110.7	112.1	114.7	111.0	108.0	151.1
6300	99.2	101.0	102.6	102.6	104.5	104.2	106.5	108.7	109.9	111.5	113.1	110.1	106.6	150.3
8000	97.5	100.1	101.7	101.6	102.8	104.1	104.8	109.2	109.4	110.2	111.2	108.2	105.9	149.8
10000	95.7	98.9	100.7	101.2	102.2	103.5	104.7	107.4	108.5	109.4	110.4	107.8	105.1	149.5
12500	93.8	96.4	99.5	100.7	100.8	102.0	102.6	105.5	106.8	106.9	108.2	105.8	103.6	148.4
16000	91.5	94.8	96.7	98.6	99.3	99.7	100.8	102.9	104.4	103.9	106.2	103.3	101.1	147.4
20000	89.1	92.1	94.5	96.3	96.9	97.7	99.3	99.9	102.2	101.9	104.4	101.7	98.8	147.1
25000	85.6	89.7	91.7	93.6	95.1	96.5	97.3	99.1	100.7	100.8	101.3	99.4	95.2	147.5
31500	79.8	84.6	86.6	89.3	90.2	91.3	91.8	93.8	96.6	96.7	87.8	94.9	88.7	146.2
40000	76.4	81.2	83.2	86.2	87.5	88.1	88.7	91.6	94.5	95.4	87.5	92.0	86.6	148.4
50000	72.6	78.7	79.6	82.5	84.4	85.4	85.9	88.1	92.7	95.2	85.6	91.4	84.1	151.0
63000	68.9	76.7	76.7	78.8	80.9	82.1	82.3	87.3	91.1	96.2	96.4	89.6	81.3	156.1
80000	65.5	75.9	75.0	75.2	78.0	79.4	79.0	83.0	90.2	95.8	85.8	87.9	77.4	162.0

GASPL 113.9 114.6 115.3 115.2 115.7 115.5 116.7 118.3 121.3 125.3 129.3 128.9 127.2 167.2  
PNL 127.4 128.2 128.9 128.8 129.5 129.2 129.7 130.9 133.9 137.6 141.6 139.9 137.6  
PNLT 128.9 129.4 129.9 130.2 130.8 130.3 130.9 130.9 133.9 137.6 141.6 139.9 137.6  
DBA 114.7 115.1 115.7 115.4 115.7 115.2 116.0 117.8 121.1 125.0 129.1 128.3 126.1

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH242 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.30 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1691.5 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2287.6 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-0211 TAPE = X0211C TEST PT NO = 0211 NC = AE060 CORR FAN SPEED = RPM

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OF POOR QUALITY

167

82F-ZER-0211

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0211 X0211F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	83.5	82.3	81.3	87.1	87.7	87.3	87.0	87.1	89.1	90.7	97.8	97.2	97.6	133.1
63	91.2	91.2	88.5	94.3	96.1	96.0	96.1	95.0	96.5	98.3	105.4	104.1	104.8	140.7
80	86.9	91.7	88.5	89.0	89.6	90.7	92.4	91.3	91.7	92.3	94.2	96.9	99.0	134.3
100	88.2	94.0	89.8	92.8	93.7	92.8	93.7	95.1	93.8	96.8	98.7	101.9	104.1	138.1
125	84.2	88.2	90.2	91.4	92.3	93.0	94.1	94.0	94.0	97.8	102.4	105.8	106.8	140.0
160	85.4	84.0	88.2	89.3	89.6	89.7	95.9	92.0	92.7	98.3	103.9	107.1	109.5	141.4
200	86.3	86.9	87.6	90.2	91.0	92.6	94.5	95.2	97.6	100.4	105.6	109.3	111.4	143.3
250	86.0	90.1	89.8	90.9	91.0	92.1	95.5	97.1	98.6	105.6	111.0	113.5	113.6	147.0
315	86.4	89.7	89.2	92.4	94.1	94.7	97.8	97.7	100.9	108.0	112.6	115.3	115.0	148.7
400	87.0	90.5	91.3	92.2	93.4	93.3	105.2	98.1	102.5	111.1	115.2	117.2	115.1	150.7
500	88.5	90.8	91.6	93.3	93.9	95.0	97.4	99.1	104.3	112.6	116.8	117.4	115.6	151.5
630	89.7	91.7	93.7	94.1	95.1	96.2	97.6	99.8	104.2	114.5	118.2	118.4	117.0	152.8
800	92.2	94.2	95.3	96.0	96.9	97.5	99.4	102.3	107.0	114.8	119.5	118.6	117.0	153.5
1000	100.2	100.2	99.7	98.6	98.4	98.2	100.4	103.3	108.5	114.3	118.9	119.1	117.8	153.6
1250	99.3	104.3	103.6	104.0	104.0	103.3	103.5	104.1	109.6	115.2	119.5	120.2	118.5	154.6
1600	102.8	101.4	101.4	100.8	101.7	101.8	103.7	105.5	109.9	112.9	118.8	119.0	117.0	153.5
2000	108.3	106.4	105.6	102.8	100.3	100.4	103.2	105.7	109.8	112.9	118.4	117.7	114.0	153.0
2500	107.8	108.0	108.8	108.1	106.2	102.1	103.3	106.6	111.0	114.0	117.8	115.9	111.6	153.1
3150	104.1	105.9	107.2	107.2	108.3	106.6	105.0	106.5	110.3	113.6	118.1	113.8	110.1	152.8
4000	101.3	102.5	104.1	105.2	107.2	107.7	106.3	107.4	110.0	113.7	115.7	112.2	109.0	151.7
5000	100.8	102.5	103.4	103.8	104.3	105.8	107.7	107.8	110.7	112.1	114.7	111.0	108.0	151.1
6300	99.2	101.0	102.6	102.6	104.5	104.2	106.5	108.7	109.9	111.5	113.1	110.1	106.6	150.5
8000	97.5	100.1	101.7	101.6	102.8	104.1	104.8	109.2	109.4	110.2	111.2	108.2	105.9	149.8
10000	95.7	98.9	100.7	101.2	102.2	103.5	104.7	107.4	108.5	109.4	110.4	107.8	105.1	149.5
12500	93.8	96.4	99.5	100.7	100.8	102.0	102.6	105.5	106.8	106.9	108.2	105.8	103.6	148.4
16000	91.5	94.8	96.7	98.6	99.3	99.7	100.8	102.9	104.4	103.9	106.2	103.3	101.1	147.4
20000	89.1	92.1	94.5	96.3	96.9	97.7	99.3	99.9	102.2	101.9	104.4	101.7	98.8	147.1
25000	85.6	89.7	91.7	93.6	95.1	96.5	97.3	99.1	100.7	100.8	101.3	99.4	95.2	147.5
31500	79.8	84.6	86.6	89.3	90.2	91.3	91.8	93.8	96.6	96.7	97.8	94.9	88.7	146.2
40000	76.4	81.2	83.2	86.2	87.5	88.1	88.7	91.6	94.5	95.4	97.5	92.0	86.6	148.4
50000	72.6	78.7	79.6	82.5	84.4	85.4	85.9	88.1	92.7	95.2	95.6	91.4	84.1	151.0
63000	68.9	76.7	76.7	78.8	80.9	82.1	82.3	87.3	91.1	96.2	96.4	89.6	81.3	156.1
80000	65.5	75.9	75.0	75.2	78.0	79.4	79.0	83.0	90.2	95.8	95.8	87.9	77.4	162.0

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CASPL 113.9 114.6 115.3 115.2 115.7 115.5 116.7 118.3 121.3 125.3 129.3 128.9 127.2 167.2  
PNL 127.4 128.2 128.9 128.8 129.5 129.2 129.7 130.9 133.9 137.6 141.6 139.9 137.6  
PNLT 128.9 129.4 129.9 130.2 130.8 130.3 130.9 130.9 133.9 137.6 141.6 139.9 137.6  
DBA 186.6 196.5 195.7 196.4 199.0 200.3 200.1 204.2 210.8 216.3 216.3 208.6 198.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH242 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.30 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1691.5 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2287.6 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0211 TAPE = X0211F TEST PT NO = 0211 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0211 X02111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.6	70.6	72.5	74.1	75.7	75.7	87.5	80.0	83.7	91.2	93.8	93.6	88.1	168.7
63	67.1	70.9	72.7	75.2	76.2	77.5	79.7	81.0	85.5	92.7	95.3	93.8	88.6	169.5
80	68.2	71.8	74.9	76.0	77.4	78.6	79.9	81.6	85.4	94.6	96.7	94.6	89.9	170.8
100	70.6	74.2	76.3	77.8	79.1	79.9	81.6	84.1	88.1	94.8	97.9	94.8	89.8	171.5
125	78.5	80.1	80.7	80.4	80.5	80.5	82.5	85.0	89.5	94.2	97.3	95.2	90.3	171.7
160	77.4	84.1	84.4	85.6	86.0	85.5	85.5	85.7	90.4	94.9	97.7	96.0	90.6	172.7
200	80.7	81.0	82.0	82.3	83.6	83.9	85.6	86.9	90.5	92.5	96.7	94.4	88.7	171.6
250	85.8	85.7	86.0	84.0	82.0	82.2	84.8	86.9	90.3	92.1	95.9	92.7	85.0	171.1
315	84.9	86.9	89.0	89.1	87.6	83.6	84.7	87.6	91.1	92.9	94.9	90.3	81.8	171.1
400	80.8	84.4	87.0	87.9	89.4	87.9	86.1	87.1	90.1	92.1	94.8	87.6	79.3	170.9
500	77.5	80.6	83.5	85.5	88.0	88.6	87.1	87.7	89.4	91.8	91.8	85.4	77.2	169.8
630	76.5	80.3	82.5	83.8	84.9	86.5	88.2	87.8	89.9	89.8	90.3	83.5	75.2	169.1
800	74.4	78.3	81.4	82.4	84.8	84.7	86.8	88.4	88.7	88.9	88.3	81.9	72.7	168.5
1000	72.3	77.2	80.3	81.2	83.0	84.5	85.0	88.8	88.0	87.2	85.9	79.4	70.7	167.8
1250	70.0	75.6	79.1	80.7	82.2	83.7	84.7	86.8	86.9	86.1	84.6	78.2	68.6	167.5
1600	67.2	72.5	77.4	79.8	80.5	82.0	82.3	84.6	84.7	83.1	81.6	74.8	64.7	166.4
2000	63.9	70.4	74.3	77.4	78.8	79.6	80.4	81.7	82.0	79.4	78.6	70.6	59.2	165.4
2500	59.7	66.4	71.2	74.5	76.0	77.0	78.3	78.1	78.9	76.2	75.0	66.2	52.0	165.1
3150	52.9	61.6	66.5	70.3	72.7	74.4	75.0	75.7	75.5	72.6	68.5	59.0	40.0	165.6
4000	40.8	51.7	57.6	62.7	64.8	66.4	66.4	67.2	67.6	63.9	58.8	45.5	19.0	164.2
5000	27.6	40.8	48.0	54.1	57.2	58.4	58.4	59.5	59.3	55.0	48.8	28.9		166.4
6300	6.0	24.1	32.3	39.6	44.0	45.8	45.5	45.3	45.4	40.6	29.0	4.2		169.0
8000			8.0	16.7	22.4	24.7	23.7	25.2	22.5	16.7				174.1
10000														180.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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CASPL	90.9	93.2	95.0	95.7	96.5	96.3	97.4	98.5	100.9	104.2	106.7	104.0	98.4	185.1
PNL	95.4	98.6	101.1	102.2	103.5	103.5	104.1	105.6	107.0	108.4	109.9	105.6	98.7	
PNLT	96.1	99.2	101.7	102.9	104.1	104.1	104.1	105.6	107.5	108.9	110.9	105.6	98.7	
DBA	84.6	87.7	90.4	91.6	92.9	93.4	94.0	95.7	96.6	97.0	97.9	92.8	85.5	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL	=	ADH242	TEST DATE	=	08-23-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	0. FPS
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	78.00	PAMB HG	=	29.30	RELHUM	=	79.1 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=	
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1691.5 FPS	AE8	=	4.0 SQ IN			
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2287.6 FPS	AE18	=	18.0 SQ IN			

RUNPT = 82F-ZER 0211 TAPE = X02111 TEST PT NO = 0211 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0212 X0212C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.5	84.8	81.6	81.4	80.5	79.6	79.5	82.4	85.6	94.7	90.5	90.5	96.4	130.1
63	89.2	89.0	86.0	84.6	87.4	86.0	86.6	88.0	91.0	102.5	91.7	91.6	97.8	135.4
80	87.7	91.5	88.0	89.3	88.6	89.7	91.1	91.0	91.7	90.6	92.4	95.1	99.3	133.6
100	86.7	92.5	88.3	90.6	91.4	91.0	92.9	93.6	91.8	92.1	96.0	99.4	103.3	136.2
125	84.9	86.9	89.0	90.4	91.1	91.5	92.8	92.7	91.5	94.0	100.4	104.1	106.5	138.7
160	83.4	81.2	86.2	86.6	86.6	86.0	93.4	87.8	90.0	94.8	101.4	104.6	108.0	139.2
200	85.3	84.1	83.6	84.7	85.8	87.6	91.5	91.4	94.6	95.7	101.3	106.5	109.4	140.5
250	82.0	84.8	84.6	86.4	87.0	88.3	91.7	93.4	94.6	100.6	107.0	110.2	110.4	143.4
315	83.9	84.9	85.2	86.9	88.3	89.7	94.8	93.2	97.2	103.2	109.1	111.6	110.7	144.8
400	84.2	86.3	87.0	88.0	88.9	89.5	101.2	94.1	98.8	106.3	111.7	112.9	109.1	146.4
500	85.2	86.5	87.6	89.3	89.9	90.8	94.4	95.3	100.1	108.6	114.0	113.4	106.3	147.5
630	85.7	87.2	88.7	89.8	91.1	92.2	94.4	96.8	101.0	110.5	115.2	112.6	103.3	148.2
800	87.2	87.7	90.0	91.0	92.6	93.5	96.4	98.8	103.7	111.1	116.2	110.9	100.3	148.7
1000	91.9	90.5	92.0	92.9	93.9	94.7	97.4	100.3	104.7	110.6	115.2	109.6	98.8	148.0
1250	94.3	95.1	94.6	94.7	95.2	96.1	98.7	100.6	105.6	111.1	114.0	106.9	98.2	147.5
1600	103.3	101.9	99.1	96.3	96.5	97.3	99.9	102.2	106.8	109.4	113.5	105.5	98.7	147.4
2000	106.0	105.9	106.1	104.0	99.6	97.9	100.4	103.0	107.1	109.4	111.6	104.5	98.0	147.8
2500	103.0	105.0	106.8	107.9	106.9	101.8	101.2	104.4	107.7	110.8	111.3	104.3	97.8	148.9
3150	99.6	101.2	102.9	104.7	106.8	106.9	104.7	104.5	107.8	111.1	111.6	103.8	98.1	148.9
4000	98.0	98.7	100.1	100.9	103.4	105.4	106.0	105.6	108.2	111.2	111.2	104.2	98.7	148.4
5000	97.3	98.8	100.1	100.3	101.1	102.3	105.7	106.2	108.5	110.6	111.4	104.7	98.5	148.3
6300	95.4	97.2	97.8	99.1	101.2	101.2	104.0	107.4	108.2	109.0	109.6	103.1	96.9	147.5
8000	93.3	96.1	96.7	97.9	99.1	100.4	102.8	106.9	108.4	108.4	107.5	100.7	95.4	147.1
10000	92.3	94.7	96.2	97.0	98.2	99.5	102.5	105.4	107.3	107.9	106.4	100.9	94.9	146.7
12500	90.3	92.4	94.0	95.9	96.1	98.1	100.4	103.0	104.6	105.2	104.3	98.9	93.9	145.2
16000	87.3	91.6	91.6	93.6	95.1	95.6	98.4	100.9	102.7	102.6	101.5	97.1	91.9	144.3
20000	85.2	88.2	89.1	91.7	92.5	94.1	96.1	97.2	100.0	99.5	99.7	94.5	90.2	143.5
25000	82.5	85.1	86.9	88.5	90.5	91.8	94.5	95.0	98.1	97.7	95.4	91.8	86.6	143.5
31500	75.7	79.5	80.8	84.5	84.3	86.7	88.2	89.5	93.3	93.2	90.5	85.8	79.4	141.5
40000	71.8	75.9	77.7	80.1	81.4	83.1	84.6	86.2	89.7	90.4	87.0	81.9	76.0	142.1
50000	67.6	71.8	72.6	75.0	77.0	79.0	79.9	81.4	86.8	88.0	83.9	77.2	70.6	143.2
63000	62.9	70.1	68.4	69.7	72.4	74.1	74.3	78.2	84.6	87.6	82.6	72.1	64.6	146.6
80000	59.5	69.9	65.6	63.5	66.1	68.7	67.8	72.0	81.1	86.0	77.5	63.7	55.7	150.5

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GASPL 110.8 111.6 112.3 112.7 113.0 112.9 114.4 116.1 118.7 122.1 124.9 121.6 118.4 161.2  
PNL 123.9 124.9 126.0 126.8 127.1 127.2 128.0 128.7 131.5 134.8 136.4 131.2 126.5  
PNLT 125.9 125.4 126.0 128.8 128.4 128.2 129.1 128.7 131.5 134.8 136.4 131.2 126.5  
DBA 111.6 112.2 113.0 113.3 113.5 113.0 114.0 115.6 118.5 121.8 124.3 119.3 113.0

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH259	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNINT =	LBS XNL =	RPM	XNH =	RPM	V8 = 1702.2 FPS
FNRAMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = 2290.8 FPS
					AE8 = 4.0 SQ IN
					AE18 = 18.0 SQ IN
RUNPT = 82F-400-0212	TAPE = X0212C	TEST PT NO = 0212	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0212 X0212F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL			
FREQ																	
50																	
63																	
80																	
100																	
125																	
160																	
200																	
250	89.4	90.9	89.3	89.5	88.5	88.3	89.8	89.8	93.7	98.9	104.2	107.1	108.1	140.9			
315	89.4	90.9	89.3	89.5	90.1	89.9	93.5	90.4	96.1	102.7	107.7	109.6	108.3	143.2			
400	91.6	91.3	90.1	90.3	90.7	89.8	100.3	91.9	98.5	106.7	112.1	113.0	109.4	146.6			
500	91.4	92.3	91.8	91.3	91.8	91.1	93.7	93.7	99.2	108.4	113.3	112.9	108.3	147.1			
630	92.9	92.9	92.5	92.8	93.1	92.6	93.5	94.7	102.1	109.1	114.7	112.2	107.9	147.8			
800	93.3	93.6	93.7	93.4	94.7	94.0	95.5	96.6	103.7	109.3	114.7	112.6	109.2	148.1			
1000	94.9	94.2	95.1	94.6	95.8	95.4	96.6	98.3	104.5	109.9	113.5	109.9	108.6	147.3			
1250	98.1	95.9	96.4	96.1	96.9	96.9	98.1	98.7	106.2	108.6	113.5	108.9	109.6	147.4			
1600	99.2	99.3	98.0	97.3	98.6	98.4	99.6	100.7	106.8	108.9	111.9	108.3	109.2	147.1			
2000	110.7	108.2	104.0	99.8	101.7	99.2	100.4	101.7	107.7	110.5	111.8	108.4	109.4	149.1			
2500	113.1	111.9	110.8	107.3	109.6	103.4	101.5	103.4	108.2	111.4	112.6	108.3	110.2	151.6			
3150	108.9	110.4	111.4	111.5	110.1	108.9	105.4	103.9	109.4	112.1	112.8	109.3	111.2	152.3			
4000	107.2	107.8	108.5	109.1	107.1	108.0	107.4	105.8	109.7	111.5	113.0	109.7	111.0	151.4			
5000	105.6	105.4	105.8	105.6	105.1	105.3	107.2	106.5	109.6	110.1	111.3	108.3	109.6	150.1			
6300	104.7	105.5	106.0	105.1	105.3	104.2	105.8	107.9	110.0	109.7	109.3	106.0	108.2	149.8			
8000	102.7	103.8	103.5	103.8	103.1	103.4	104.8	107.5	109.1	109.4	108.5	106.4	108.0	149.3			
10000	100.4	102.5	102.2	102.4	102.3	102.5	104.5	106.0	107.2	107.6	107.3	105.3	107.7	148.5			
12500	99.1	100.8	101.4	101.2	100.1	101.1	102.6	104.0	106.1	105.7	105.4	104.4	106.4	147.8			
16000	96.7	98.0	98.7	99.7	99.1	98.6	100.6	102.1	104.1	103.5	104.3	102.4	105.2	147.3			
20000	93.2	96.8	95.9	96.9	96.6	97.1	98.5	98.6	102.7	102.0	100.4	100.2	102.3	146.7			
25000	90.5	92.8	92.8	94.4	95.1	94.8	96.8	96.3	97.7	97.3	95.2	93.9	95.1	145.3			
31500	89.8	91.2	91.5	91.6	88.9	89.7	90.3	90.2	94.9	95.2	92.3	90.6	92.5	144.9			
40000	82.2	84.7	84.6	86.7	86.0	86.1	86.7	86.8	91.8	92.6	88.7	85.0	85.4	144.9			
50000	77.9	80.8	81.1	81.9	81.6	82.0	81.5	81.5	90.5	93.0	88.4	80.8	80.3	147.4			
63000	72.8	75.7	75.1	75.9	77.0	77.1	75.7	78.2	88.5	92.9	84.7	73.9	72.9	150.9			
80000	66.6	72.5	69.3	69.1	69.9	71.7	69.2	72.0	78.7	83.1	74.9	64.1	63.1	148.6			
0ASPL	117.7	117.4	117.2	116.5	116.2	115.1	115.4	116.0	119.6	121.9	124.5	122.3	121.8	162.6			
PNL	131.2	130.6	130.7	130.3	129.6	128.5	128.3	127.8	131.9	134.5	136.2	133.4	134.1				
PNLT	133.9	132.3	130.7	132.1	129.6	129.6	129.4	127.8	131.9	134.5	136.2	133.4	134.1				
DBA	188.7	193.7	191.3	191.5	192.3	193.4	191.5	193.9	202.0	206.3	198.4	188.3	187.5				
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES																	
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166																	
VEHICL	=	ADH259	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	400. FPS
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	71.00	PAMB HG	=	29.40	RELHUM	=	88.3 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		NBFR	=	
FNIN1	=	LBS	XNL	=		RPM	XNH	=		RPM	V8	=	1702.2 FPS	AE8	=	4.0 SQ IN	
FNANB	=	LBS	XNLR	=		RPM	XNHR	=		RPM	V18	=	2290.8 FPS	AE18	=	18.0 SQ IN	
RUNPT = 82F-400-0212 TAPE = X0212F TEST PT NO = 0212 NC = AE060 CORR FAN SPEED = RPM																	

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P185-03



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0212 X02121

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.1	71.4	71.3	72.2	73.0	72.2	82.6	73.8	79.7	86.8	90.7	89.4	82.4	164.7
63	69.9	72.4	72.9	73.2	74.1	73.6	76.0	75.6	80.3	88.5	91.9	89.2	81.3	165.2
80	71.4	73.0	73.7	74.6	75.3	75.0	75.7	76.6	83.2	89.2	93.2	88.5	80.8	165.9
100	71.8	73.6	74.8	75.2	76.9	76.4	77.7	78.4	84.8	89.3	93.1	88.7	81.9	166.2
125	73.2	74.1	76.1	76.3	78.0	77.7	78.8	80.1	85.5	89.8	91.8	85.9	81.1	165.4
160	76.2	75.6	77.2	77.7	79.0	79.0	80.1	80.4	87.1	88.4	91.6	84.7	81.8	165.4
200	77.1	78.8	78.7	78.8	80.4	80.4	81.5	82.2	87.4	88.4	89.8	83.7	80.9	165.1
250	88.3	87.5	84.5	81.0	83.4	81.0	82.0	83.0	88.1	89.8	89.3	83.4	80.5	167.1
315	90.3	90.8	90.9	88.3	91.0	85.0	82.9	84.3	88.3	90.3	89.8	82.8	80.4	169.7
400	85.5	88.9	91.2	92.1	91.2	90.1	86.5	84.6	89.2	90.6	89.4	83.1	80.5	170.3
500	83.3	85.9	88.0	89.5	88.0	89.0	88.3	86.1	89.1	89.6	89.2	82.9	79.2	169.5
630	81.2	83.1	84.9	85.6	85.7	86.0	87.8	86.6	88.7	87.9	87.0	80.8	76.7	168.1
800	79.9	82.8	84.8	84.9	85.6	84.7	86.2	87.7	88.8	87.0	84.4	77.8	74.2	167.8
1000	77.5	80.9	82.1	83.4	83.3	83.7	85.0	87.1	87.7	86.4	83.2	77.6	72.9	167.3
1250	74.6	79.2	80.6	81.8	82.3	82.7	84.5	85.5	85.5	84.3	81.5	75.6	71.1	166.5
1600	72.5	76.9	79.4	80.3	79.9	81.0	82.3	83.1	84.1	81.8	78.7	73.3	67.5	165.8
2000	69.1	73.5	76.3	78.5	78.7	78.4	80.2	81.0	81.7	79.0	76.7	69.7	63.3	165.3
2500	63.8	71.1	72.6	75.1	75.6	76.4	77.5	76.8	79.4	76.3	71.0	64.7	55.4	164.7
3150	57.7	64.7	67.6	71.0	72.7	72.8	74.4	72.9	72.5	69.2	62.4	53.4	39.9	163.3
4000	50.8	58.3	62.5	64.9	63.6	64.8	64.9	63.5	65.9	62.3	53.3	41.2	22.7	162.9
5000	33.4	44.3	49.3	54.7	55.7	56.3	56.3	54.8	56.6	52.2	40.0	21.9		162.9
6300	11.3	26.1	33.7	39.1	41.2	42.4	41.1	38.7	43.1	38.4	21.8			165.4
8000			6.4	13.8	18.5	19.7	17.2	16.1	19.8	13.5				168.9
10000														166.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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CASPL	94.5	95.8	96.8	96.9	97.1	96.0	96.1	96.0	99.1	100.6	101.9	97.2	91.8	180.5
PNL	99.7	101.7	103.1	104.0	103.9	103.3	103.2	103.3	105.6	106.0	105.1	99.1	94.7	
PNLT	101.1	102.6	103.8	104.5	103.9	103.8	103.2	103.3	106.1	106.6	105.1	99.1	94.7	
DBA	89.3	91.5	93.0	93.7	93.6	93.2	93.8	94.2	95.8	95.1	93.7	87.5	83.7	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23165

VEHICLE = ADH259	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNI =	LBS XNL =	RPM XNH =	RPM V8 = 1702.2 FPS	AE8 =	4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2290.8 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-0212	TAPE = X02121	TEST PT NO = 0212	NC = AE060	CORR FAN SPEED =	RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0213 X0213C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.5	87.6	81.3	87.4	88.2	87.1	87.2	86.1	89.1	90.2	98.0	96.7	96.9	133.1
63	94.2	96.2	88.2	95.1	96.6	95.7	96.4	94.0	96.2	98.3	105.4	103.6	104.3	140.7
80	88.2	93.0	89.0	90.5	90.6	92.2	93.1	91.8	92.7	92.8	95.2	97.6	99.8	135.2
100	89.0	95.3	90.5	92.8	93.7	92.8	93.9	95.3	93.8	96.8	99.0	101.9	104.6	138.4
125	85.4	88.7	91.0	92.7	93.8	94.2	94.6	95.2	94.7	98.0	103.7	107.3	108.3	141.3
160	87.2	86.2	89.7	90.8	91.4	90.7	96.6	93.3	94.0	98.8	105.2	107.9	110.8	142.4
200	88.1	88.9	88.6	90.9	92.8	93.6	95.8	95.9	99.4	101.2	106.3	110.5	113.2	144.7
250	87.5	91.3	91.1	92.4	92.0	93.1	96.7	98.1	99.8	106.4	111.8	115.0	115.1	148.2
315	89.1	92.2	90.9	92.9	95.3	95.9	99.6	98.5	101.7	109.0	113.9	116.8	116.5	150.1
400	88.2	91.8	92.8	93.0	94.9	94.3	106.2	99.1	102.8	112.3	116.5	118.9	116.8	152.2
500	89.7	91.8	92.8	94.0	95.2	96.5	98.7	100.1	105.3	114.4	118.5	118.7	117.3	153.0
630	90.2	93.2	94.7	95.4	96.1	97.2	98.9	101.5	105.7	116.0	120.2	120.1	118.5	154.5
800	93.7	95.0	96.5	96.7	97.9	98.5	100.4	103.8	108.3	116.8	120.5	120.6	118.5	155.0
1000	99.4	100.7	101.0	99.4	99.6	99.2	101.6	104.8	109.2	115.8	120.9	120.9	118.8	155.3
1250	104.3	108.3	105.8	106.5	106.7	105.1	104.2	105.9	111.1	115.7	122.0	122.5	120.2	156.7
1600	107.0	105.2	104.6	102.8	103.0	103.1	104.7	106.5	111.4	115.2	122.1	121.0	117.5	155.9
2000	110.0	107.9	108.8	107.0	104.1	101.9	104.7	107.0	111.3	114.6	121.6	118.0	113.7	155.1
2500	107.0	108.0	109.3	110.4	110.2	105.3	104.8	108.4	112.5	116.5	120.3	116.6	112.4	155.0
3150	104.1	105.4	106.2	107.5	108.8	109.6	107.8	108.0	111.8	116.1	118.9	114.8	110.6	154.0
4000	102.5	104.0	104.8	105.4	106.2	107.9	108.5	108.9	112.0	115.7	116.7	113.0	109.2	153.0
5000	102.0	103.0	104.4	104.8	105.3	105.8	108.7	110.0	111.7	115.1	116.4	112.2	108.2	152.7
6300	100.2	101.5	103.8	103.6	105.2	105.0	106.7	110.4	111.2	113.8	114.3	110.6	106.4	151.8
8000	97.8	100.3	102.7	103.4	103.6	104.6	105.8	109.2	110.6	112.2	113.0	108.5	104.9	150.9
10000	96.2	99.2	101.4	102.2	103.5	104.5	105.0	107.4	109.5	111.4	111.4	108.1	103.9	150.4
12500	94.8	96.6	99.7	100.9	101.3	103.3	103.3	105.5	107.6	108.7	109.2	106.1	103.1	149.2
16000	92.0	95.6	97.0	99.1	100.0	100.5	101.8	104.1	105.4	106.7	106.9	104.1	100.6	148.5
20000	90.1	92.1	94.5	96.3	97.9	99.0	100.0	101.1	103.2	103.7	104.9	101.9	98.8	147.9
25000	86.6	90.0	92.2	94.4	95.3	97.5	98.3	99.6	102.2	102.8	97.9	99.2	95.0	148.2
31500	79.8	84.8	86.3	89.8	90.4	92.5	92.8	95.1	97.8	99.2	94.3	95.2	89.0	146.9
40000	76.9	82.7	84.2	86.2	86.3	89.1	90.5	92.8	96.5	98.4	93.3	93.7	86.1	149.3
50000	74.6	82.2	80.6	83.2	84.7	86.7	87.1	90.6	94.7	98.5	91.3	92.9	83.8	152.4
63000	73.4	83.2	77.4	79.5	81.9	83.1	83.3	89.5	92.9	99.4	82.4	91.6	81.6	157.5
80000	72.9	83.4	75.7	77.0	78.7	80.6	79.7	86.5	92.4	99.2	81.5	88.1	75.6	163.6
GASPL	115.3	115.9	116.4	116.7	117.1	116.8	117.9	119.5	122.6	127.1	131.2	130.5	128.4	168.7
PNL	128.2	128.9	129.8	130.5	130.7	130.7	131.2	132.3	135.3	139.7	143.2	141.1	138.3	
PNLT	128.2	130.7	130.8	132.3	132.5	132.0	132.3	132.3	135.3	139.7	143.2	141.1	138.3	
DBA	116.0	116.4	116.9	117.1	117.2	116.7	117.3	119.2	122.5	126.9	131.2	129.9	127.2	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH243 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1691.2 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2370.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0213 TAPE = X0213C TEST PT NO = 0213 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 58 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0213 X0213F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.5	87.6	81.3	87.4	88.2	87.1	87.2	86.1	89.1	90.2	98.0	96.7	96.9	133.1
63	94.2	96.2	88.2	95.1	96.6	95.7	96.4	94.0	96.2	98.3	105.4	103.6	104.3	140.7
80	88.2	93.0	89.0	90.5	90.6	92.2	93.1	91.8	92.7	92.8	95.2	97.6	99.8	135.2
100	89.0	95.3	90.5	92.8	93.7	92.8	93.9	95.3	93.8	96.8	99.0	101.9	104.6	138.4
125	85.4	88.7	91.0	92.7	93.8	94.2	94.6	95.2	94.7	98.0	103.7	107.3	108.3	141.3
160	87.2	86.2	89.7	90.8	91.4	90.7	96.6	93.3	94.0	98.8	105.2	107.9	110.8	142.4
200	89.1	88.9	88.6	90.9	92.8	93.6	95.8	95.9	99.4	101.2	106.3	110.5	113.2	144.7
250	87.5	91.3	91.1	92.4	92.0	93.1	96.7	98.1	99.8	106.4	111.8	115.0	115.1	148.2
315	89.1	92.2	90.9	92.9	95.3	95.9	99.6	98.5	101.7	109.0	113.9	116.8	116.5	150.1
400	88.2	91.8	92.8	93.0	94.9	94.3	106.2	99.1	102.8	112.3	116.5	118.9	116.8	152.2
500	89.7	91.8	92.8	94.0	95.2	96.5	98.7	100.1	105.3	114.4	118.5	118.7	117.3	153.0
630	90.2	93.2	94.7	95.4	96.1	97.2	98.9	101.5	105.7	116.0	120.2	120.1	118.5	154.5
800	93.7	95.0	96.5	96.7	97.9	98.5	100.4	103.8	108.3	116.8	120.5	120.6	118.5	155.0
1000	99.4	100.7	101.0	99.4	99.6	99.2	101.6	104.8	109.2	115.8	120.9	120.9	118.8	155.3
1250	104.3	108.3	105.8	106.5	106.7	105.1	104.2	105.9	111.1	115.7	122.0	122.5	120.2	156.7
1600	107.0	105.2	104.6	102.8	103.0	103.1	104.7	106.5	111.4	115.2	122.1	121.0	117.5	155.9
2000	110.0	107.9	108.8	107.0	104.1	101.9	104.7	107.0	111.3	114.6	121.6	118.0	113.7	155.1
2500	107.0	108.0	109.3	110.4	110.2	105.3	104.8	108.4	112.5	116.5	120.3	116.6	112.4	155.0
3150	104.1	105.4	106.2	107.5	108.8	109.6	107.8	108.0	111.8	116.1	118.9	114.8	110.6	154.0
4000	102.5	104.0	104.8	105.4	106.2	107.9	108.5	108.9	112.0	115.7	116.7	113.0	109.2	153.0
5000	102.0	103.0	104.4	104.8	105.3	105.8	108.7	110.0	111.7	115.1	116.4	112.2	108.2	152.7
6300	100.2	101.5	103.8	103.6	105.2	105.0	106.7	110.4	111.2	113.8	114.3	110.6	106.4	151.8
8000	97.8	100.3	102.7	103.4	103.6	104.6	105.8	109.2	110.6	112.2	113.0	108.5	104.9	150.9
10000	96.2	99.2	101.4	102.2	103.5	104.5	105.0	107.4	109.5	111.4	111.4	108.1	103.9	150.4
12500	94.8	96.6	99.7	100.9	101.3	103.3	103.3	105.5	107.6	108.7	109.2	106.1	103.1	149.2
16000	92.0	95.6	97.0	99.1	100.0	100.5	101.8	104.1	105.4	106.7	106.9	104.1	100.6	148.5
20000	90.1	92.1	94.5	96.3	97.9	99.0	100.0	101.1	103.2	103.7	104.9	101.9	98.8	147.9
25000	86.6	90.0	92.2	94.4	95.3	97.5	98.3	99.6	102.2	102.8	97.9	99.2	95.0	148.2
31500	79.8	84.8	86.3	89.8	90.4	92.5	92.8	95.1	97.8	99.2	94.3	95.2	89.0	146.9
40000	76.9	82.7	84.2	86.2	88.3	89.1	90.5	92.8	96.5	98.4	93.3	93.7	86.1	149.3
50000	74.6	82.2	80.6	83.2	84.7	86.7	87.1	90.6	94.7	98.5	91.3	92.9	83.8	152.4
63000	73.4	83.2	77.4	79.5	81.9	83.1	83.3	89.5	92.9	99.4	92.4	91.6	81.6	157.5
80000	72.9	83.4	75.7	77.0	78.7	80.6	79.7	86.5	92.4	99.2	91.5	88.1	75.6	163.6

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GASPL 115.3 115.9 116.4 116.7 117.1 116.8 117.9 119.5 122.6 127.1 131.2 130.5 128.4 168.7  
PNL 128.2 128.9 129.8 130.5 130.7 130.7 131.2 132.3 135.3 139.7 143.2 141.1 138.3  
PNLT 128.2 130.7 130.8 132.3 132.5 132.0 132.3 132.3 135.3 139.7 143.2 141.1 138.3  
DBA 193.5 203.8 196.5 197.9 199.7 201.5 200.9 207.4 212.9 219.7 212.1 209.1 197.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH243 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1691.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2370.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0213 TAPE = X0213F TEST PT NO = 0213 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0213 X02131

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	66.8	71.9	74.0	74.9	77.2	76.7	88.5	81.0	84.0	92.5	95.1	95.3	89.9	170.2
63	68.3	71.9	74.0	75.9	77.5	79.0	81.0	82.0	86.5	94.5	97.1	95.0	90.3	171.1
80	68.7	73.3	75.9	77.2	78.4	79.6	81.1	83.4	86.5	96.1	98.7	96.4	91.4	172.6
100	72.1	75.0	77.6	78.6	80.1	80.9	82.6	85.6	89.3	96.8	98.9	96.8	91.3	173.1
125	77.8	80.6	82.0	81.1	81.8	81.5	83.8	86.5	90.2	95.7	99.3	96.9	91.3	173.3
160	82.4	88.1	86.7	88.1	88.7	87.2	86.2	87.5	91.9	95.4	100.2	98.2	92.4	174.7
200	84.9	84.7	85.3	84.3	84.9	85.1	86.6	87.9	92.0	94.7	99.9	96.4	89.2	173.9
250	87.6	87.2	89.3	88.2	85.7	83.7	86.3	88.2	91.8	93.9	99.2	93.0	84.7	173.1
315	84.1	86.9	89.5	91.3	91.6	86.9	86.2	89.3	92.6	95.4	97.4	91.1	82.6	173.0
400	80.8	83.9	86.0	88.1	89.9	90.9	88.9	88.6	91.6	94.6	95.5	88.6	79.8	172.1
500	78.7	82.1	84.3	85.8	87.0	88.9	89.4	89.2	91.4	93.8	92.8	86.2	77.5	171.0
630	77.7	80.8	83.5	84.8	85.9	86.5	89.2	90.0	90.9	92.8	92.1	84.7	75.4	170.8
800	75.4	78.8	82.6	83.4	85.6	85.4	87.1	90.2	90.0	91.1	89.5	82.4	72.4	169.8
1000	72.5	77.4	81.3	83.0	83.8	85.0	86.0	88.8	89.2	89.2	87.7	79.6	69.7	168.9
1250	70.5	75.9	79.8	81.7	83.5	84.7	85.0	86.8	87.9	88.1	85.6	78.4	67.3	168.4
1600	68.2	72.8	77.6	80.0	81.0	83.3	83.1	84.6	85.5	84.8	82.6	75.0	64.2	167.2
2000	64.4	71.1	74.6	77.9	79.6	80.3	81.4	83.0	83.0	82.2	79.3	71.4	58.7	166.6
2500	60.7	66.4	71.2	74.5	77.0	78.3	79.1	79.3	79.9	78.0	75.5	66.5	52.0	166.0
3150	53.9	61.8	67.0	71.0	73.0	75.4	76.0	76.2	77.0	74.6	65.1	58.7	39.7	166.2
4000	40.8	52.0	57.3	63.2	65.1	67.6	67.4	68.4	68.8	66.4	55.3	45.8	19.2	165.0
5000	28.1	42.3	49.0	54.1	57.9	59.4	60.1	60.7	61.3	58.0	44.5	30.6		167.3
6300	8.0	27.6	33.3	40.4	44.3	47.0	46.7	47.8	47.4	43.8	24.7	5.6		170.4
8000		3.7	8.8	7.4	23.4	25.7	24.7	27.4	24.2	20.0				175.5
10000														181.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	92.4	94.6	96.3	97.3	98.0	97.7	98.6	99.8	102.3	106.0	108.8	105.7	99.7	186.6
PNL	96.8	99.2	102.0	103.7	104.6	105.1	105.3	106.6	108.2	110.5	111.7	107.0	99.7	
PNLT	97.3	100.1	102.5	104.6	105.6	105.7	105.3	106.6	108.7	111.1	111.7	108.1	99.7	
DBA	85.5	88.4	91.2	92.7	93.8	94.4	95.1	96.7	97.8	99.3	99.7	93.9	86.1	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH243 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1691.2 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2370.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0213 TAPE = X02131 TEST PT NO = 0213 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0214 X0214C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.8	85.1	81.8	82.1	82.5	80.8	84.5	85.6	86.6	94.7	94.5	90.5	97.6	131.4
63	90.2	89.7	86.7	86.5	88.9	86.0	89.4	88.0	91.2	103.5	97.9	90.1	98.5	136.7
80	88.4	93.0	88.2	90.3	90.1	91.2	92.9	91.3	92.0	91.6	93.9	96.1	102.0	135.1
100	88.7	93.8	88.8	91.1	92.4	92.0	93.9	95.1	93.0	93.6	96.7	100.7	104.1	137.2
125	85.4	87.7	89.2	91.2	92.1	92.2	93.8	94.0	92.7	94.8	101.2	104.8	107.0	139.4
160	84.4	81.7	87.0	87.1	87.4	87.0	93.6	89.3	90.5	95.0	102.2	105.6	109.0	140.1
200	86.3	85.1	85.1	85.9	87.3	89.4	93.3	92.4	96.4	96.2	102.8	107.5	110.7	141.7
250	83.5	86.3	85.6	87.4	87.7	88.8	92.7	94.4	95.6	100.9	107.8	111.5	111.9	144.5
315	84.6	86.2	86.4	88.4	89.6	90.4	95.6	95.0	98.2	104.5	110.1	113.3	112.5	146.3
400	84.7	87.0	87.8	88.7	89.7	90.0	101.7	95.1	99.5	106.8	112.7	114.7	111.3	147.7
500	86.0	87.8	88.6	90.5	90.9	92.0	94.7	96.6	101.1	109.4	114.8	115.2	108.6	148.7
630	86.2	88.7	89.7	91.1	91.6	93.0	94.9	97.3	102.0	111.5	116.4	114.6	106.0	149.6
800	88.2	88.7	90.7	92.2	93.1	94.0	96.4	99.8	104.2	112.3	117.4	113.1	102.5	150.0
1000	93.4	92.2	93.0	94.4	94.4	94.7	97.9	101.0	105.7	112.1	116.2	112.4	101.3	149.3
1250	98.3	98.8	96.1	96.5	95.9	96.6	98.9	101.6	106.1	111.9	116.3	109.7	100.7	149.2
1600	106.3	105.7	104.3	100.8	98.5	95.1	100.7	103.2	107.8	111.2	116.8	109.5	102.0	150.1
2000	107.0	107.4	108.8	107.7	102.8	99.2	100.9	104.0	107.8	111.1	115.6	108.5	101.5	150.4
2500	103.0	105.3	107.1	108.6	109.4	105.3	102.2	105.4	109.2	112.3	115.0	107.8	100.8	150.9
3150	101.4	102.2	102.9	104.2	106.5	108.1	107.0	105.2	108.5	112.1	115.6	107.8	101.1	150.6
4000	100.3	100.9	102.3	102.2	102.4	104.6	107.3	107.3	109.5	112.7	113.7	107.5	100.7	150.0
5000	99.5	100.3	101.6	102.5	102.3	102.5	105.7	108.2	110.2	112.1	113.4	106.2	99.7	149.9
6300	97.7	99.5	101.1	101.3	102.2	102.2	104.5	108.2	110.2	110.8	111.6	104.4	98.1	149.1
8000	95.5	98.6	99.2	101.1	100.3	101.9	103.8	107.2	109.4	109.7	109.5	102.7	96.6	148.3
10000	94.3	96.9	98.4	99.7	100.2	101.5	103.0	105.7	108.3	109.1	108.1	102.1	95.6	147.9
12500	92.1	93.9	96.7	98.4	98.3	100.1	101.1	104.0	106.6	106.5	106.3	100.1	94.6	146.8
16000	89.3	92.4	93.8	96.4	97.1	97.5	99.6	101.9	104.5	103.7	104.0	97.4	92.2	145.9
20000	86.9	89.5	91.4	93.7	94.3	95.8	97.4	98.7	101.5	100.3	101.0	95.3	90.7	144.8
25000	84.0	87.1	88.6	91.5	92.5	93.8	95.7	96.7	100.1	99.9	97.9	93.1	87.3	145.5
31500	77.2	81.3	83.0	86.5	87.3	88.5	89.7	91.5	95.5	95.2	94.0	87.1	80.4	143.7
40000	73.3	78.2	80.2	82.6	83.4	84.8	86.4	89.2	92.7	93.6	92.0	83.4	77.0	145.2
50000	68.9	73.8	75.1	78.0	79.5	81.0	82.4	84.7	89.8	92.8	88.1	79.4	72.4	146.8
63000	64.2	70.3	70.6	72.5	74.4	76.3	77.0	81.7	87.6	91.1	88.6	74.6	66.3	150.2
80000	59.5	69.8	67.6	65.7	68.5	70.9	71.5	77.2	84.8	87.8	84.5	69.2	57.5	153.5
NASPL	112.5	113.2	114.1	114.4	114.3	114.1	115.4	117.1	120.0	123.4	126.9	123.7	120.1	163.1
PNL	125.3	126.1	127.1	128.1	128.4	128.3	129.0	130.0	132.7	136.1	139.3	133.9	128.5	
PNLT	125.3	126.6	129.0	128.1	130.0	130.1	130.1	130.0	133.2	136.1	139.3	133.9	128.5	
DBA	113.2	113.9	114.8	114.9	114.7	114.1	115.0	116.7	119.7	123.2	126.7	121.8	115.2	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH260	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
1 ALPHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.45	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1707.3 FPS	AE8 = 4.0 SQ IN	
FNAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2381.8 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-400-0214	TAPE = X0214C	TEST PT NO = 0214	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0214 X0214F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	90.1	91.8	89.9	90.3	89.1	88.8	90.8	90.8	94.7	100.1	105.2	108.9	109.9	142.4
315	90.1	91.8	89.9	90.3	91.4	90.6	94.2	92.2	96.3	102.8	108.3	111.0	110.2	144.3
400	92.3	92.5	91.4	91.8	91.4	90.3	100.4	92.3	99.3	107.1	112.3	114.0	110.8	147.3
500	91.9	93.1	92.5	92.0	92.8	92.4	94.0	94.9	100.5	109.7	114.9	115.1	111.2	149.0
630	93.7	94.2	93.5	94.0	93.6	93.4	94.1	95.4	102.8	110.6	116.2	114.7	110.3	149.6
800	93.8	95.1	94.7	94.6	95.2	94.5	95.5	97.7	105.0	111.2	116.0	115.6	111.9	150.1
1000	95.9	95.2	95.8	95.8	96.1	95.4	97.3	99.3	105.2	110.9	116.0	112.9	111.3	149.4
1250	98.6	96.7	96.7	97.1	97.7	97.4	98.4	99.9	107.4	110.6	117.0	113.1	113.0	150.3
1600	105.0	104.3	100.2	99.3	100.5	100.1	100.4	101.8	107.7	110.9	116.2	112.5	112.9	150.3
2000	113.7	111.9	109.2	104.3	105.6	100.5	100.9	102.9	109.3	112.2	115.8	112.1	112.6	152.2
2500	117.2	115.9	115.5	112.5	112.4	106.9	102.5	104.5	109.1	112.6	116.9	112.6	113.4	155.2
3150	110.6	111.9	112.5	112.8	109.8	110.1	107.7	104.8	110.7	113.7	115.4	112.6	113.3	153.8
4000	108.9	108.8	108.5	108.6	106.1	107.2	108.6	107.5	111.3	112.9	114.9	111.1	112.1	152.4
5000	107.8	107.7	108.1	106.8	106.4	105.5	107.2	108.5	111.2	111.5	112.9	109.1	110.4	151.5
6300	107.0	107.0	107.5	107.4	106.3	105.2	106.0	108.3	110.8	110.7	111.1	107.7	109.2	151.0
8000	105.0	106.0	106.7	106.0	104.4	104.9	105.6	107.5	109.9	110.3	109.9	107.3	108.4	150.5
10000	102.7	105.0	104.7	105.6	104.3	104.5	104.8	106.0	108.8	108.4	108.8	106.1	108.1	149.9
12500	101.1	103.1	103.7	104.0	102.4	103.1	103.2	104.7	107.3	106.3	107.2	104.0	106.3	149.0
16000	98.4	99.5	101.5	102.2	101.1	100.5	101.7	102.7	105.4	104.0	105.4	103.0	105.7	148.5
20000	95.2	97.6	98.1	99.7	98.3	98.8	99.7	100.0	104.1	103.6	102.2	100.8	102.6	148.2
25000	92.2	94.1	95.1	96.4	97.1	96.8	97.9	97.6	99.5	98.7	97.9	94.1	94.6	146.9
31500	91.3	93.2	93.3	94.6	91.9	91.5	91.4	91.7	97.3	97.7	96.4	90.8	91.4	147.1
40000	83.7	86.5	86.8	88.7	88.0	87.8	87.9	89.3	94.8	97.3	92.9	87.2	87.1	148.0
50000	79.4	83.0	83.6	84.4	84.1	84.0	83.9	84.7	93.5	96.5	94.4	83.3	82.0	150.9
63000	74.0	77.7	77.6	78.9	79.0	79.3	78.4	81.7	92.2	94.7	91.7	79.4	74.7	153.9
80000	67.8	72.8	71.6	71.9	72.8	73.9	73.0	77.2	82.4	84.9	81.9	69.6	64.9	151.6
0ASPL	120.8	120.2	119.8	118.7	117.5	116.2	116.2	116.9	120.8	123.3	126.9	124.7	123.9	164.7
PNL	134.4	133.7	133.3	132.0	130.9	129.7	129.2	129.0	133.3	135.9	138.8	136.1	136.2	
PNLT	136.1	135.1	135.7	132.0	132.4	131.4	130.2	129.0	133.3	135.9	138.8	136.1	136.2	
DBA	189.9	194.4	193.6	194.3	194.9	195.6	194.8	198.6	205.6	208.1	205.2	193.2	189.2	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL	=	ADH260	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	400. FPS
1APLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	71.00	PAMB HG	=	29.45	RELHUM	=	88.3 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		NBFR	=	
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	170 3 FPS	AE8	=	4.0 SQ IN			
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2001.8 FPS	AE18	=	18.0 SQ IN			
RUNPT	=	82F-400-0214	TAPE	=	X0214F	TEST PT NO	=	0214	NC	=	AE060	CORR FAN SPEED	=		RPM		

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0214 X02141

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.9	72.7	72.6	73.7	73.8	72.7	82.7	74.3	80.5	87.2	90.9	90.4	83.8	165.3
63	70.4	73.2	73.7	73.9	75.1	74.8	76.3	76.8	81.7	89.8	93.5	91.5	84.2	167.0
80	72.2	74.2	74.7	75.9	75.8	75.8	76.3	77.3	83.9	90.6	94.7	91.0	83.2	167.6
100	72.3	75.1	75.8	76.4	77.4	76.9	77.8	79.6	86.0	91.2	94.5	91.8	84.6	168.1
125	74.2	75.1	76.8	77.6	78.2	77.7	79.4	81.0	86.2	90.8	94.3	88.9	83.9	167.5
160	76.7	76.5	77.5	78.7	79.7	79.5	80.4	81.5	88.3	90.4	95.1	88.9	85.2	168.3
200	82.8	83.8	80.9	80.8	82.4	82.1	82.3	83.3	88.4	90.5	94.1	88.0	84.6	168.3
250	91.2	91.2	89.7	85.5	87.3	82.3	82.6	84.1	89.8	91.5	93.3	87.1	83.6	170.2
315	94.3	94.9	95.7	93.4	93.8	88.5	83.9	85.4	89.3	91.6	94.1	87.1	83.6	173.3
400	87.3	90.4	92.3	93.4	90.9	91.4	88.8	85.5	92.2	92.0	86.4	82.5	171.9	
500	85.1	86.9	88.0	89.0	87.0	88.2	83.4	87.9	90.8	91.0	91.0	84.3	80.3	170.4
630	83.5	85.4	87.2	86.9	86.9	86.3	87.8	88.5	90.4	89.3	88.6	81.6	77.5	169.5
800	82.1	84.3	86.3	87.2	86.6	85.7	86.3	88.1	89.6	88.1	86.2	79.5	75.2	169.0
1000	79.7	83.1	85.3	85.6	84.5	85.2	85.8	87.1	88.5	87.4	84.6	78.4	73.2	168.5
1250	76.9	81.7	83.1	85.1	84.3	84.7	84.8	85.5	87.2	85.1	83.1	76.4	71.6	167.9
1600	74.5	79.2	81.6	83.1	82.1	83.0	82.9	83.8	85.2	82.4	80.5	72.9	67.4	167.1
2000	70.8	75.0	79.0	81.0	80.7	80.4	81.3	81.6	83.0	79.5	77.8	70.3	63.7	166.5
2500	65.8	71.9	74.8	77.9	77.4	78.1	78.7	78.2	80.8	77.9	72.8	65.4	55.8	166.2
3150	59.5	65.9	69.9	73.0	74.7	74.8	75.5	74.2	74.3	70.5	65.1	53.6	39.4	165.0
4000	52.3	60.3	64.3	67.9	66.6	66.6	66.1	65.1	68.3	64.8	57.4	41.4	21.7	165.2
5000	34.9	46.1	51.6	56.7	57.7	58.0	57.6	57.2	59.5	56.8	44.1	24.1		166.0
6300	12.8	28.4	36.2	41.6	43.7	44.4	43.5	41.8	46.1	41.9	27.8			168.9
8000			8.9	16.8	20.5	21.9	19.9	19.6	23.6	15.2				171.9
10000														169.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL 97.6 98.7 99.6 99.0 98.5 97.2 96.9 97.0 100.3 102.0 104.3 99.8 94.4 182.7  
P - 102.9 104.6 105.9 105.9 105.5 104.7 104.2 104.3 106.9 107.4 107.9 101.7 96.8  
PNLT 104.0 105.3 107.1 106.4 106.3 105.5 104.7 104.3 107.4 108.1 107.9 101.7 96.8  
DBA 92.1 93.9 95.3 95.6 94.8 94.4 94.5 94.9 97.0 96.3 96.1 89.7 85.5

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH260 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 98.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1707.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2381.8 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0214 TAFE = X02141 TEST PT NO = 0214 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0215 X0215C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.5	88.6	82.3	88.4	88.5	87.3	87.2	89.4	89.3	89.7	97.5	97.2	97.6	133.4
63	96.7	96.0	89.5	96.3	97.4	96.0	95.9	97.0	96.5	97.8	104.7	103.9	104.3	140.8
80	89.2	93.5	89.5	90.5	91.1	92.7	94.6	92.3	93.2	93.6	95.9	98.1	100.3	135.9
100	89.7	95.5	91.3	93.6	94.2	94.0	94.9	96.3	94.8	97.3	99.2	102.9	105.3	139.1
125	85.7	89.2	91.5	92.9	94.6	94.7	95.1	95.7	96.0	98.8	103.4	107.3	108.3	141.5
160	87.7	86.5	90.0	90.3	91.1	91.0	98.4	93.8	94.5	100.0	105.7	108.9	111.3	143.2
200	89.3	89.6	88.6	91.4	92.8	94.1	96.0	96.7	99.6	101.2	106.6	110.8	113.7	145.0
250	87.5	92.1	91.3	92.6	92.2	93.1	96.7	98.6	99.8	106.6	112.3	115.5	115.9	148.8
315	89.4	92.7	90.7	93.1	95.1	96.2	99.1	98.5	103.2	109.5	114.4	117.3	117.2	150.6
400	89.0	91.8	92.5	93.5	95.2	95.3	106.2	99.3	104.0	112.8	116.7	118.7	117.3	152.3
500	89.7	92.3	93.1	94.0	95.2	96.5	98.9	100.3	105.6	114.6	118.8	119.4	117.8	153.5
630	90.7	93.7	94.5	95.1	96.4	97.7	99.1	101.5	106.0	116.0	119.9	120.4	118.5	154.5
800	94.2	95.5	96.5	97.5	98.4	98.7	100.6	103.5	108.8	116.8	121.2	120.6	118.5	155.3
1000	100.7	101.7	101.5	99.6	99.9	99.5	101.4	104.8	110.0	116.3	121.4	121.1	119.3	155.7
1250	102.5	105.3	106.1	106.2	105.5	104.1	104.2	105.9	110.8	116.4	121.8	121.5	119.0	156.2
1600	106.3	103.9	103.6	102.3	103.2	103.1	104.9	107.0	111.9	115.2	122.6	120.0	116.2	155.8
2000	108.0	106.4	107.6	105.8	103.6	102.7	104.4	107.2	111.3	115.1	121.4	117.7	113.7	154.8
2500	105.5	106.8	107.8	107.9	108.5	105.6	104.8	108.4	113.0	117.3	120.5	116.4	111.9	155.0
3150	102.6	104.4	105.9	106.2	107.6	107.9	107.5	108.2	111.8	116.6	119.1	114.3	110.3	154.0
4000	100.5	101.5	104.1	104.4	105.4	106.4	108.0	109.4	112.5	116.7	116.9	112.5	108.5	153.1
5000	100.0	101.0	102.9	102.8	104.1	104.8	107.4	109.8	112.2	115.6	116.4	111.5	107.5	152.6
6300	97.7	100.0	101.3	102.1	103.7	104.2	106.5	109.7	111.2	114.0	114.3	110.4	106.4	151.5
8000	96.0	98.8	100.4	101.6	102.1	103.4	105.6	108.7	110.6	112.4	112.5	108.0	104.4	150.5
10000	94.0	97.7	99.7	100.7	101.7	103.2	105.2	107.2	109.5	111.9	110.9	107.1	102.9	150.1
12500	92.1	94.9	98.0	99.4	100.3	101.8	103.3	105.3	107.8	108.9	109.2	106.1	101.8	149.0
16000	89.2	93.3	95.5	97.3	98.5	99.7	100.8	103.4	105.9	106.9	107.4	103.3	99.4	148.3
20000	86.8	90.1	92.5	95.1	96.4	98.0	99.0	100.9	103.2	103.9	105.6	101.2	97.1	147.7
25000	83.6	88.2	90.2	92.4	93.8	95.7	97.3	99.6	102.2	103.3	102.5	95.2	94.2	148.2
31500	77.0	82.8	83.8	88.1	88.9	90.8	91.5	93.8	98.3	100.0	99.0	90.7	88.0	147.2
40000	73.6	81.2	81.5	84.2	85.5	87.6	89.0	92.3	96.0	99.6	98.2	87.7	85.1	149.8
50000	71.8	81.0	77.3	80.0	82.4	84.7	85.4	89.4	94.7	98.7	97.2	85.2	81.6	152.8
63000	72.4	80.9	73.9	76.5	79.2	80.8	81.8	88.0	94.1	100.4	97.1	82.5	80.6	158.5
80000	71.7	81.7	72.2	74.2	76.7	77.9	77.7	83.5	91.4	101.0	98.2	79.9	72.1	165.5

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CASPL 113.8 114.4 115.4 115.4 116.0 116.0 117.6 119.4 122.9 127.6 131.4 130.3 128.3 169.5  
PNL 126.7 127.7 128.7 128.9 129.5 129.7 130.9 132.4 135.7 140.2 143.3 140.7 137.8  
PNLT 126.7 128.4 129.9 130.6 130.8 129.7 132.1 132.4 135.7 140.2 143.3 140.7 137.8  
DBA 114.5 114.8 115.9 115.6 116.1 115.8 117.0 119.1 122.8 127.4 131.4 129.5 126.9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VERTICL = ADH244	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNINT =	LBS XNL =	RPM	XNH =	RPM	V8 = 1693.7 FPS
FNRAMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = 2411.6 FPS
					AE8 = 4.0 SQ IN
					AE18 = 18.0 SQ IN
RUNPT = 82F-ZER-0215	TAPE = X0215C	TEST PT NO = 0215	NC = AE060	CORR FAN SPEED =	RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0215 X0215F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.5	88.6	82.3	88.4	88.5	87.3	87.2	89.4	89.3	89.7	87.5	97.2	97.6	133.4
63	96.7	96.0	89.5	96.3	97.4	96.0	95.9	97.0	96.5	97.8	104.7	103.9	104.3	140.8
80	89.2	93.5	89.5	90.5	91.1	92.7	94.6	92.3	93.2	93.6	95.9	98.1	100.3	135.9
100	89.7	95.5	91.3	93.6	94.2	94.0	94.9	96.3	94.8	97.3	99.2	102.9	105.3	139.1
125	85.7	89.2	91.5	92.9	94.6	94.7	95.1	95.7	96.0	98.8	103.4	107.3	108.3	141.5
160	87.7	86.5	90.0	90.3	91.1	91.0	98.4	93.8	94.5	100.0	105.7	108.9	111.3	143.2
200	89.3	89.6	88.6	91.4	92.8	94.1	96.0	96.7	99.6	101.2	106.6	110.8	113.7	145.0
250	87.5	92.1	91.3	92.6	92.2	93.1	96.7	98.6	99.8	106.6	112.3	115.5	115.9	148.8
315	89.4	92.7	90.7	93.1	95.1	96.2	99.1	98.5	103.2	109.5	114.4	117.3	117.2	150.6
400	89.0	91.8	92.5	93.5	95.2	95.3	106.2	99.3	104.0	112.8	116.7	118.7	117.3	152.3
500	89.7	92.3	93.1	94.0	95.2	96.5	98.9	100.3	105.6	114.6	118.8	119.4	117.8	153.5
630	90.7	93.7	94.5	95.1	96.4	97.7	99.1	101.5	106.0	116.0	119.9	120.4	118.5	154.5
800	94.2	95.5	96.5	97.5	98.4	98.7	100.6	103.5	108.8	116.8	121.2	120.6	118.5	155.3
1000	100.7	101.7	101.5	99.6	99.9	99.5	101.4	104.8	110.0	116.3	121.4	121.1	119.3	155.7
1250	102.5	105.3	106.1	106.2	105.5	104.1	104.2	105.9	110.8	116.4	121.8	121.5	119.0	156.2
1600	106.3	103.9	103.6	102.3	103.2	103.1	104.9	107.0	111.9	115.2	122.6	120.0	116.2	155.8
2000	108.0	106.4	107.6	105.8	103.6	102.7	104.4	107.2	111.3	115.1	121.4	117.7	113.7	154.8
2500	105.5	106.8	107.8	107.9	108.5	105.6	104.8	108.4	113.0	117.3	120.5	116.4	111.9	155.0
3150	102.6	104.4	105.9	106.2	107.6	107.9	107.5	108.2	111.8	116.6	119.1	114.3	110.3	154.0
4000	100.5	101.5	104.1	104.4	105.4	106.4	108.0	109.4	112.5	116.7	116.9	112.5	108.5	153.1
5000	100.0	101.0	102.9	102.8	104.1	104.8	107.4	109.8	112.2	115.6	116.4	111.5	107.5	152.6
6300	97.7	100.0	101.3	102.1	103.7	104.2	106.5	109.7	111.2	114.0	114.3	110.4	106.4	151.5
8000	96.0	98.8	100.4	101.6	102.1	103.4	105.6	108.7	110.6	112.4	112.5	108.0	104.4	150.5
10000	94.0	97.7	99.7	100.7	101.7	103.2	105.2	107.2	109.5	111.9	110.9	107.1	102.9	150.1
12500	92.1	94.9	98.0	99.4	100.3	101.8	103.3	105.3	107.8	108.9	109.2	106.1	101.8	149.0
16000	89.2	93.3	95.5	97.3	98.5	99.7	100.8	103.4	105.9	106.9	107.4	103.3	99.4	148.3
20000	86.8	90.1	92.5	95.1	96.4	98.0	99.0	100.9	103.2	103.9	105.6	101.2	97.1	147.7
25000	83.6	88.2	90.2	92.4	93.8	95.7	97.3	99.6	102.2	103.3	102.5	95.2	94.2	148.2
31500	77.0	82.8	83.8	88.1	88.9	90.8	91.5	93.8	98.3	100.0	99.0	90.7	88.0	147.2
40000	73.6	81.2	81.5	84.2	85.5	87.6	89.0	92.3	96.0	99.6	98.2	87.7	85.1	149.8
50000	71.8	81.0	77.3	80.0	82.4	84.7	85.4	89.4	94.7	98.7	97.2	85.2	81.6	152.8
63000	72.4	80.9	73.9	76.5	79.2	80.8	81.8	88.0	94.1	100.4	97.1	82.5	80.6	158.5
80000	71.7	81.7	72.2	74.2	76.7	77.9	77.7	83.5	91.4	101.0	98.2	79.9	72.1	165.5
BASPL	113.8	114.4	115.4	115.4	116.0	116.0	117.6	119.4	122.9	127.6	131.4	130.3	128.3	169.5
PNL	126.7	127.7	128.7	128.9	129.5	129.7	130.9	132.4	135.7	140.2	143.3	140.7	137.8	
PNLT	126.7	128.4	129.9	130.6	130.8	129.7	132.1	132.4	135.7	140.2	143.3	140.7	137.8	
DBA	192.2	202.1	193.0	195.1	197.6	198.9	199.0	204.7	212.2	221.4	218.6	200.8	194.7	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH244 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1693.7 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2411.6 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0215 TAPE = X0215F TEST PT NO = 0215 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0215 X02151

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.6	71.9	73.7	75.4	77.5	77.7	88.5	81.2	85.2	93.0	95.3	95.1	90.4	170.3
63	68.3	72.4	74.2	75.9	77.5	79.0	81.2	82.2	86.7	94.7	97.3	95.8	90.8	171.5
80	69.2	73.8	75.6	77.0	78.6	80.1	81.4	83.4	87.1	96.1	98.4	96.6	91.4	172.6
100	72.3	75.5	77.6	79.3	80.6	81.1	82.9	85.3	89.8	96.8	99.6	96.8	91.3	173.4
125	79.0	81.6	82.5	81.4	82.0	81.8	83.5	86.5	91.0	96.2	99.8	97.2	91.8	173.7
160	80.6	85.1	86.9	87.8	87.5	86.2	86.2	87.5	91.7	96.1	99.9	97.2	91.1	174.2
200	84.2	83.5	84.3	83.8	85.1	85.1	86.8	88.4	92.5	94.7	100.4	95.4	87.9	173.8
250	85.6	85.7	88.0	87.0	85.2	84.5	86.1	88.4	91.8	94.4	98.9	92.7	84.7	172.9
315	82.6	85.7	88.0	88.8	89.9	87.1	86.2	89.3	93.1	96.2	97.7	90.8	82.1	173.0
400	79.3	82.9	85.7	86.9	88.7	89.1	88.6	88.9	91.6	95.1	95.8	88.1	79.5	172.0
500	76.7	79.6	83.6	84.8	86.3	87.4	88.9	89.7	91.9	94.8	93.1	85.7	76.7	171.2
630	75.7	78.8	82.0	82.8	84.6	85.5	88.0	89.8	91.4	93.3	92.1	84.0	74.7	170.6
800	72.9	77.3	80.1	81.9	84.1	84.7	86.8	89.4	90.0	91.4	89.5	82.2	72.4	169.5
1000	70.8	75.9	79.0	81.2	82.3	83.7	85.8	88.3	89.2	89.5	87.2	79.1	69.2	168.5
1250	68.2	74.4	78.1	80.2	81.7	83.4	85.2	86.6	87.9	88.6	85.1	77.4	66.3	168.1
1600	65.4	71.0	75.9	78.5	80.0	81.8	83.1	84.4	85.7	85.1	82.6	75.0	62.9	167.0
2000	61.6	68.9	73.1	76.2	78.1	79.6	80.4	82.2	83.5	82.4	79.8	70.6	57.4	166.3
2500	57.4	64.4	69.2	73.3	75.5	77.3	78.1	79.1	79.9	78.2	76.2	65.7	50.2	165.7
3150	50.9	60.1	65.0	69.0	71.5	73.7	75.0	76.2	77.0	75.1	69.7	54.7	39.0	166.2
4000	38.0	50.0	54.8	61.4	63.6	65.9	66.2	67.2	69.3	67.1	60.0	41.3	18.2	165.2
5000	24.9	40.8	46.2	52.1	55.2	57.9	58.6	60.2	60.8	59.2	49.4	24.6		167.8
6300	5.3	26.3	30.0	37.1	42.0	45.0	45.0	46.5	47.4	44.1	30.7			170.8
8000		1.4	5.3	14.4	20.6	23.4	23.2	25.9	25.5	21.0				176.6
10000														183.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	91.0	93.1	95.4	96.0	96.9	96.9	98.4	99.7	102.5	106.4	108.9	105.5	99.6	187.4
PNL	95.0	97.8	100.6	102.0	103.3	103.9	104.9	106.3	108.5	111.0	112.0	106.4	99.0	
PNLT	95.0	98.4	101.2	102.9	104.0	103.9	104.9	106.3	108.5	111.0	112.0	106.4	100.1	
DBA	83.7	86.8	89.7	91.1	92.5	93.3	94.7	96.4	98.1	99.8	99.8	93.4	85.5	

ORIGINAL DATA IN  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH244	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	TEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNINI =	LBS XNL =	RPM XNH =	RPM V8 = 1693.7 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2411.6 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0215 TAPE = X02151 TEST PT NO = 0215 NC = AE060 CORR FAN SPEED = RPM

UNTRANS. MED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0216 X0216C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.0	85.6	81.3	82.6	82.5	80.6	80.7	84.9	86.6	94.4	95.0	91.5	98.1	131.6
63	90.7	88.5	86.7	85.8	89.4	86.7	86.9	88.5	91.0	103.3	87.9	91.1	98.5	136.6
80	89.4	93.5	90.0	91.8	91.1	91.7	93.4	92.3	92.7	92.3	94.7	96.4	101.3	135.5
100	89.0	94.0	89.8	92.1	92.7	92.8	94.7	95.8	93.5	94.1	97.5	101.7	104.8	138.0
125	86.4	88.2	90.0	91.9	93.1	93.0	94.6	94.2	93.2	95.0	101.7	105.8	108.5	140.4
160	85.2	81.5	87.5	87.8	87.9	88.0	93.6	89.8	91.2	96.0	102.7	106.1	110.0	140.8
200	86.6	85.1	84.9	85.7	87.8	89.4	93.3	93.2	96.1	96.4	103.1	108.0	111.4	142.2
250	83.6	86.1	86.3	87.6	88.2	89.6	93.5	94.4	96.3	101.6	109.0	112.2	112.6	145.4
315	84.4	85.4	86.2	88.4	89.6	90.7	95.8	95.2	98.7	105.0	110.9	113.8	113.2	146.9
400	85.5	87.0	87.8	88.7	90.4	90.5	102.2	95.3	99.5	107.6	113.5	115.4	111.8	148.4
500	86.2	88.0	89.1	90.3	91.2	92.3	95.2	96.6	101.1	109.9	116.0	115.9	109.8	149.6
630	86.4	88.5	90.2	91.3	92.4	93.7	96.1	98.0	102.2	112.3	116.9	115.1	107.0	150.1
800	89.2	89.0	91.0	92.2	93.1	94.5	97.4	100.0	104.7	112.6	117.9	113.6	103.8	150.5
1000	93.7	92.7	93.2	94.1	94.6	95.2	98.4	101.3	106.2	112.6	116.9	112.4	102.5	149.9
1250	98.3	99.8	96.6	97.2	96.7	97.6	99.9	102.4	107.6	112.6	117.3	110.4	102.0	150.1
1600	105.3	105.2	104.1	101.6	98.7	99.3	101.4	103.5	108.3	112.2	117.8	109.5	103.0	150.8
2000	105.3	105.7	107.3	106.2	102.8	99.7	102.2	104.5	108.3	112.1	117.1	108.5	102.2	150.9
2500	102.5	104.3	105.8	106.9	107.4	105.1	103.2	105.9	109.5	113.8	116.5	108.8	101.6	151.3
3150	99.9	100.7	102.4	103.2	105.5	107.4	107.2	106.2	109.0	113.6	116.9	108.3	102.1	151.3
4000	98.0	98.7	100.8	101.4	102.2	104.1	107.0	107.8	110.5	113.4	115.4	107.7	101.0	150.7
5000	97.3	98.5	99.9	100.5	100.8	102.5	105.7	108.5	111.2	113.3	114.4	106.5	100.0	150.5
6300	95.9	97.2	97.8	99.1	100.7	102.0	104.7	108.2	111.2	112.0	112.6	105.1	98.9	149.7
8000	93.8	96.3	96.9	98.4	99.1	101.1	103.8	107.4	110.4	110.4	110.5	103.2	97.4	148.7
10000	92.5	95.2	95.9	97.7	98.5	100.7	103.2	106.2	109.0	110.1	109.6	102.6	95.6	148.5
12500	90.6	91.7	94.5	96.2	96.6	99.3	101.1	103.8	107.3	107.5	107.0	100.6	94.9	147.1
16000	87.5	90.9	91.6	94.1	95.6	97.0	99.4	101.4	105.0	104.5	104.7	98.1	92.7	146.0
20000	85.4	87.7	88.9	91.7	93.3	94.8	97.4	98.5	102.0	102.0	102.5	96.0	90.7	145.3
25000	81.7	84.6	86.1	89.5	90.7	92.8	95.5	96.7	100.6	100.7	98.9	93.3	87.1	145.6
31500	75.5	79.3	81.3	84.5	85.1	87.7	89.7	91.2	96.0	95.7	94.3	87.3	80.9	143.8
40000	72.0	74.9	77.2	80.1	81.2	83.3	85.6	88.5	93.7	94.1	93.2	83.9	77.5	145.5
50000	67.6	71.5	72.4	75.5	77.2	79.2	81.7	84.2	91.0	93.0	89.6	79.7	72.6	147.3
63000	63.4	69.8	68.6	70.0	71.9	74.3	75.8	80.7	88.1	92.6	88.4	75.1	66.6	150.9
80000	62.3	70.1	67.4	63.2	72.8	68.7	73.0	75.7	84.8	90.3	86.7	67.7	58.0	155.2

ORIGINAL PAGE IS  
OF POOR QUALITY

OASPL 111.2 112.1 112.9 113.1 113.2 113.7 115.6 117.4 120.7 124.3 127.9 124.2 120.9 163.8  
PNL 123.9 124.9 126.0 126.8 127.2 127.9 129.2 130.4 133.4 137.1 140.4 134.4 129.3  
PNLT 125.1 125.5 126.0 126.8 128.3 129.5 130.3 130.4 133.4 137.1 140.4 134.4 129.3  
DBA 111.9 112.6 113.5 113.5 113.5 113.8 115.3 117.1 120.4 124.1 127.8 122.2 116.1

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH261 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1700.0 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2429.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0216 TAPE = X0216C TEST PT NO = 0216 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0216 X0216F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.8	92.1	91.0	90.7	89.7	89.6	91.6	90.8	95.2	100.6	106.0	109.4	110.6	143.0
315	90.7	92.1	91.0	90.7	91.4	90.9	94.5	92.4	96.3	103.5	109.0	111.7	110.7	144.9
400	92.1	91.8	91.1	91.8	92.2	90.8	100.9	92.6	99.3	107.5	113.5	114.7	111.9	148.1
500	92.8	93.2	92.6	92.1	93.1	92.6	94.5	94.8	100.8	110.6	115.5	115.7	112.2	149.6
630	93.9	94.4	94.0	90.8	94.3	94.1	95.4	96.2	103.4	110.9	116.8	115.4	111.7	150.2
800	94.1	94.9	95.2	94.9	95.2	95.0	96.6	98.1	105.5	111.7	116.8	115.7	113.2	150.7
1000	96.9	95.4	96.1	95.8	96.3	95.9	97.8	99.6	106.7	111.7	117.0	113.7	112.6	150.4
1250	98.8	97.2	96.9	96.8	98.5	98.4	99.4	100.6	107.9	111.6	118.0	113.1	114.0	151.1
1600	104.8	105.1	100.6	100.0	100.7	100.4	101.2	102.1	108.1	111.7	117.5	112.3	113.6	151.1
2000	112.5	111.2	108.8	104.9	104.9	101.0	102.1	103.3	109.5	113.6	117.1	113.0	113.2	152.6
2500	111.7	111.0	111.5	109.3	110.3	106.7	103.5	104.9	109.6	114.0	118.1	113.0	114.3	153.8
3150	109.7	110.6	111.1	111.0	108.8	109.4	108.0	105.8	111.5	114.2	116.8	112.6	113.3	153.7
4000	107.4	107.3	108.0	107.6	105.9	106.7	108.3	107.9	112.2	114.0	115.6	111.0	112.0	152.6
5000	105.6	105.4	106.6	106.1	104.9	105.5	107.2	108.6	112.2	112.7	113.8	109.7	111.0	151.7
6300	104.7	105.2	105.7	105.4	104.8	105.0	106.2	108.3	111.6	111.3	111.8	107.9	109.6	150.8
8000	103.2	103.8	103.5	103.8	103.1	104.1	105.4	107.6	110.4	111.1	111.1	107.5	109.0	150.3
10000	100.9	102.7	102.4	102.9	102.5	103.7	104.7	106.3	109.2	109.0	109.1	106.2	108.0	149.5
12500	99.4	101.3	101.2	102.0	101.2	102.3	102.9	104.1	107.5	106.8	107.6	104.4	106.5	148.7
16000	99.7	99.5	100.9	101.1	100.2	100.0	101.3	102.0	105.1	104.9	106.0	103.0	105.1	148.3
20000	96.3	98.4	97.6	98.6	97.9	97.8	99.3	99.1	104.1	103.8	102.6	100.4	101.7	147.9
25000	93.5	94.6	94.3	95.5	95.3	95.8	97.4	97.2	99.9	99.1	98.0	94.2	94.9	146.7
31500	89.1	90.7	90.8	92.6	89.7	90.7	91.4	91.4	98.3	98.2	97.6	91.3	91.9	146.9
40000	81.9	84.5	85.1	86.7	85.8	86.3	87.1	88.5	96.0	97.5	94.4	87.5	87.4	148.1
50000	78.1	79.8	80.6	81.9	81.8	82.2	83.1	84.2	94.0	98.0	94.1	83.8	82.3	151.3
63000	72.8	75.4	74.8	76.4	76.5	77.3	77.2	80.7	92.2	97.2	94.0	77.9	75.2	155.4
80000	67.1	72.3	69.6	69.4	77.4	71.7	74.5	75.7	82.4	87.4	84.2	68.1	65.4	153.1

ORIGINAL PAGE IS  
OF POOR QUALITY

CASPL 118.2 118.0 117.8 116.9 116.3 115.8 116.3 117.0 121.4 124.1 127.9 125.1 124.6 165.0  
 PNL 130.9 130.9 130.9 130.4 129.5 129.2 129.2 129.4 134.0 136.7 139.9 136.3 136.6  
 PNLT 132.3 132.5 130.9 130.4 130.6 130.8 130.3 129.4 134.0 136.7 139.9 136.3 136.6  
 DBA 189.0 193.4 191.4 191.8 197.9 193.5 195.6 197.2 205.7 210.5 207.3 192.0 189.6

MODEL/FULL SCALE FAC - 1N=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH261 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 1APLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1700.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2429.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0216 TAPE = X0216F TEST PT NO = 0215 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0216 X02161

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.6	71.9	72.3	73.7	74.5	73.2	83.2	74.5	80.5	87.6	92.1	91.1	85.0	166.2
63	71.4	73.3	73.8	74.0	75.4	75.1	76.8	76.7	82.0	90.7	84.0	92.0	85.2	167.6
80	72.4	74.5	75.2	75.6	76.6	76.5	77.6	78.1	84.5	91.0	85.4	91.6	84.6	168.2
100	72.5	74.9	76.3	76.7	77.4	77.4	78.8	79.9	86.6	91.7	85.3	91.9	85.9	168.7
125	75.2	75.3	77.1	77.6	78.4	78.2	79.9	81.3	87.7	91.6	85.4	89.7	85.1	168.4
160	76.9	76.9	77.7	78.4	80.5	80.5	81.4	82.2	88.7	91.3	86.1	88.9	86.2	169.1
200	82.7	84.7	81.3	81.5	82.6	82.4	83.0	83.5	88.8	91.3	85.4	87.8	85.2	169.1
250	90.1	90.5	89.3	86.1	86.6	82.8	83.8	84.5	89.9	92.9	84.7	88.0	84.3	170.7
315	88.8	89.9	91.7	90.3	91.7	88.2	84.9	85.9	89.7	93.0	85.2	87.5	84.6	171.8
400	86.4	89.1	90.9	91.6	89.9	90.6	89.1	86.4	91.3	92.7	93.5	86.4	82.5	171.7
500	83.6	85.4	87.5	88.0	86.7	87.7	89.1	88.3	91.7	92.1	81.8	84.2	80.3	170.6
630	81.2	83.1	85.7	86.1	85.4	86.3	87.7	88.7	91.3	90.5	89.5	82.2	78.1	169.7
800	79.9	82.6	84.5	85.2	85.1	85.4	86.5	88.1	90.4	88.6	87.0	79.7	75.6	168.9
1000	78.0	80.9	82.1	83.4	83.3	84.5	85.6	87.2	89.0	88.2	85.9	78.6	73.9	168.4
1250	75.1	79.5	80.8	82.3	82.5	84.0	84.7	85.7	87.6	85.7	83.4	76.5	71.4	167.6
1600	72.7	77.4	79.1	81.1	80.9	82.3	82.7	83.2	85.5	82.9	81.0	73.4	67.6	166.7
2000	72.1	75.1	78.5	79.9	79.7	79.9	80.8	80.8	82.7	80.4	78.4	70.3	63.1	166.4
2500	66.8	72.7	74.3	76.8	76.9	77.1	78.4	77.3	80.8	78.1	73.2	64.9	54.9	166.0
3150	60.8	66.5	69.1	72.2	73.0	73.8	75.1	73.8	74.7	71.0	65.3	53.7	39.7	164.7
4000	50.1	57.8	61.8	65.9	64.4	65.8	66.0	64.8	69.3	65.3	58.6	41.9	22.2	165.0
5000	33.2	44.1	49.8	54.7	55.5	56.5	56.7	56.4	60.7	57.1	45.6	24.4		166.2
6300	11.6	25.1	33.2	39.1	41.4	42.6	42.7	41.3	46.6	43.4	27.5			169.4
8000			6.2	14.3	18.0	19.9	18.6	18.6	23.6	17.7				173.4
10000														171.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OSPL	95.0	96.5	97.5	97.3	97.2	96.8	97.1	97.2	100.9	102.9	105.3	100.2	95.3	182.9
PNL	99.9	102.0	103.6	104.3	104.1	104.1	104.1	104.1	107.4	108.2	108.9	101.9	97.5	
PNLT	100.6	102.8	104.2	104.9	104.7	104.9	104.7	104.1	107.4	108.8	108.9	101.9	97.5	
DBA	89.5	91.7	93.3	93.8	93.5	93.9	94.4	94.9	97.6	97.2	97.1	89.9	86.0	
MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166														
VEHICL	=	ADH261	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	71.00	PAMB HG	=	29.45
WIND DIR	=		DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1700.0 FPS	AE8	=	4.0 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2429.1 FPS	AE18	=	18.0 SQ IN
RUNPT = 82F-400-0216      TAPE = X02161      TEST PT NO = 0216      NC = AE060      CORR FAN SPEED =      RPM														

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82-58116

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0217 X0217C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.3	86.6	81.8	87.6	85.7	86.6	87.2	88.6	88.8	89.2	97.0	96.7	96.9	132.8
63	96.7	95.5	89.5	95.6	94.6	95.5	96.6	96.5	95.7	96.5	104.9	103.4	104.0	140.5
80	89.2	93.2	89.7	91.0	91.1	92.5	94.1	92.5	94.0	93.6	95.9	98.6	100.5	136.0
100	89.5	96.0	90.8	93.8	94.4	93.8	94.7	96.3	94.8	97.3	99.5	103.2	105.3	139.2
125	86.2	89.2	92.0	93.7	95.1	95.2	95.6	96.5	96.0	98.8	104.9	108.1	109.3	142.3
160	87.9	87.0	90.0	91.3	91.1	91.0	97.9	94.0	95.0	100.0	106.2	109.1	111.8	143.5
200	89.6	89.6	88.9	91.7	93.3	94.4	93.0	96.7	100.4	101.9	107.3	111.8	114.2	145.7
250	88.0	91.6	91.6	92.6	92.5	93.3	96.7	98.6	100.1	106.9	113.3	115.5	116.1	149.1
315	89.9	92.2	91.2	93.4	95.3	96.2	99.3	98.7	102.7	109.5	114.4	117.3	117.0	150.6
400	89.2	92.0	93.0	93.7	94.9	95.0	106.4	99.8	103.8	112.3	117.2	119.2	117.3	152.6
500	90.0	92.5	93.3	94.3	95.7	96.3	99.2	100.6	105.3	114.4	119.3	119.7	118.1	153.7
630	90.9	93.2	95.0	95.6	96.4	97.5	99.1	101.5	106.2	116.0	120.4	120.6	118.5	154.8
800	94.4	95.2	96.8	97.2	98.1	99.0	100.6	104.0	108.3	116.6	121.5	121.1	118.5	155.5
1000	100.9	100.7	101.0	100.1	99.6	100.0	101.4	104.5	110.0	116.8	121.9	121.6	119.3	156.1
1250	102.0	105.6	105.3	105.5	105.5	104.6	104.2	106.1	110.8	116.4	122.0	122.2	119.0	156.5
1600	105.5	103.4	103.4	102.8	103.5	103.1	104.9	107.0	111.6	115.4	122.8	120.2	116.7	156.0
2000	107.0	105.7	106.6	105.0	102.8	102.2	104.9	107.7	112.1	115.6	121.9	117.5	114.0	155.1
2500	104.0	106.0	107.1	107.1	107.5	104.8	105.0	109.1	113.0	117.0	120.3	116.1	111.9	154.7
3150	102.4	103.7	104.7	105.5	106.8	107.4	107.3	108.2	112.0	117.1	119.6	114.6	110.8	154.2
4000	100.0	101.2	103.1	103.9	105.2	105.9	107.5	109.1	112.5	116.7	117.2	112.7	109.7	153.2
5000	99.0	101.0	102.4	102.8	104.1	104.6	106.9	109.5	112.5	115.6	116.4	112.0	108.5	152.6
6300	97.4	99.5	101.3	101.6	103.7	104.0	106.0	109.4	111.7	114.3	115.1	110.6	107.6	151.8
8000	95.3	98.6	100.2	101.4	102.0	103.4	105.1	108.4	110.6	112.9	113.2	108.0	105.6	150.7
10000	93.7	97.2	99.7	100.2	101.7	103.0	105.0	106.9	109.3	112.1	112.1	107.3	104.4	150.3
12500	92.3	94.6	97.5	99.4	99.8	101.3	102.8	105.5	108.1	109.2	109.2	105.3	102.6	149.0
16000	89.0	93.3	94.7	97.1	98.5	99.2	101.3	103.1	105.9	107.2	107.9	103.6	100.6	148.4
20000	86.6	90.1	91.8	94.8	96.2	97.5	98.8	100.6	103.4	104.4	105.6	101.2	99.1	147.8
25000	83.6	87.7	89.5	91.9	93.6	96.0	97.3	99.3	102.5	103.8	98.7	98.7	96.0	148.0
31500	77.0	83.1	83.1	87.1	88.7	90.5	91.8	94.3	98.1	100.5	94.9	94.9	89.2	146.9
40000	73.6	80.7	80.7	83.4	85.3	87.1	89.0	92.3	96.3	99.6	93.2	92.7	86.4	149.2
50000	72.1	80.5	76.8	79.5	82.2	84.2	85.1	89.4	94.7	99.7	90.7	91.1	83.6	152.5
63000	71.7	80.7	73.2	76.0	78.9	80.8	81.5	87.5	94.6	99.7	91.1	88.8	80.1	157.5
80000	71.9	79.7	72.2	74.0	76.2	77.9	78.2	84.0	93.7	100.5	89.0	88.1	74.6	154.3

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CASPL 113.1 114.0 114.7 115.0 115.6 115.7 117.4 119.5 123.0 127.7 131.8 130.6 128.5 169.1  
PNL 126.0 127.2 128.1 128.4 129.1 129.4 130.6 132.4 135.8 140.4 143.6 140.9 138.2  
PNLT 126.0 128.3 129.2 129.7 130.4 130.4 131.8 132.4 135.8 140.4 143.6 140.9 138.2  
DBA 113.7 114.3 115.2 115.1 115.7 115.5 116.8 119.2 122.9 127.5 131.7 129.9 127.1

NASA DUAL FLOW SHOCK CELL/CCAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH245 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1699.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2426.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0217 TAPE = X0217C TEST PT NO = 0217 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0217 X0217F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.3	86.6	81.8	87.6	85.7	86.6	87.2	88.6	88.8	89.2	97.0	96.7	96.9	132.8
63	96.7	95.5	89.5	95.6	94.6	95.5	96.6	96.5	95.7	96.5	104.9	103.4	104.0	140.5
80	89.2	93.2	89.7	91.0	91.1	92.5	94.1	92.5	94.0	93.6	95.9	98.6	100.5	136.0
100	89.5	96.0	90.8	93.8	94.4	93.8	94.7	96.3	94.8	97.3	99.5	103.2	105.3	139.2
125	86.2	89.2	92.0	93.7	95.1	95.2	95.6	96.5	96.0	98.8	104.9	108.1	109.3	142.3
160	87.9	87.0	90.0	91.3	91.1	91.0	97.9	94.0	95.0	100.0	106.2	109.1	111.8	143.5
200	89.6	89.6	88.9	91.7	93.3	94.4	97.0	96.7	100.4	101.9	107.3	111.8	114.2	145.7
250	88.0	91.6	91.6	92.6	92.5	93.3	96.7	98.6	100.1	106.9	113.3	115.5	116.1	149.1
315	89.9	92.2	91.2	93.4	95.3	96.2	99.3	98.7	102.7	109.5	114.4	117.3	117.0	150.6
400	89.2	92.0	93.0	93.7	94.9	95.0	106.4	99.8	103.8	112.3	117.2	119.2	117.3	152.6
500	90.0	92.5	93.3	94.3	95.7	96.3	99.2	100.6	105.3	114.4	119.3	119.7	118.1	153.7
630	90.9	93.2	95.0	95.6	96.4	97.5	99.1	101.5	106.2	116.0	120.4	120.6	118.5	154.8
800	94.4	95.2	96.8	97.2	98.1	99.0	100.6	104.0	108.3	116.6	121.5	121.1	118.5	155.5
1000	100.9	100.7	101.0	100.1	99.6	100.0	101.4	104.5	110.0	116.8	121.9	121.6	119.3	156.1
1250	102.0	105.6	105.3	105.5	105.5	104.6	104.2	106.1	110.8	116.4	122.0	122.2	119.0	156.5
1600	105.5	103.4	103.4	102.8	103.5	103.1	104.9	107.0	111.6	115.4	122.8	120.2	116.7	156.0
2000	107.0	105.7	106.6	105.0	102.8	102.2	104.9	107.7	112.1	115.6	121.9	117.5	114.0	155.1
2500	104.0	106.0	107.1	107.1	107.5	104.8	105.0	109.1	113.0	117.0	120.0	116.1	111.9	154.7
3150	102.4	103.7	104.7	105.5	106.8	107.4	107.3	108.2	112.0	117.1	119.6	114.6	110.8	154.2
4000	100.0	101.2	103.1	103.9	105.2	105.9	107.5	109.1	112.5	116.7	117.2	112.7	109.7	153.2
5000	99.0	101.0	102.4	102.8	104.1	104.6	106.9	109.5	112.5	115.6	116.4	112.0	108.5	152.6
6300	97.4	99.5	101.3	101.6	103.7	104.0	106.0	109.4	111.7	114.3	115.1	110.6	107.6	151.8
8000	95.3	98.6	100.2	101.4	102.3	103.4	105.1	108.4	110.6	112.9	113.2	108.0	105.6	150.7
10000	93.7	97.2	99.7	100.2	101.7	103.0	105.0	106.9	109.3	112.1	112.1	107.3	104.4	150.3
12500	92.3	94.6	97.5	99.4	99.8	101.3	102.8	105.5	108.1	109.2	109.2	105.3	102.6	149.0
16000	89.0	93.3	94.7	97.1	98.5	99.2	101.3	103.1	105.9	107.2	107.9	103.6	100.6	148.4
20000	86.6	90.1	91.8	94.8	96.2	97.5	98.8	100.6	103.4	104.4	105.6	101.2	99.1	147.8
25000	83.6	87.7	89.5	91.9	93.6	96.0	97.3	99.3	102.5	103.8	98.7	98.7	96.0	148.0
31500	77.0	83.1	83.1	87.1	88.7	90.5	91.8	94.3	98.1	100.5	94.9	94.9	89.2	146.9
40000	73.6	80.7	80.7	83.4	85.3	87.1	89.0	92.3	96.3	99.6	93.2	92.7	86.4	149.2
50000	72.1	80.5	76.8	79.5	82.2	84.2	85.1	89.4	94.7	99.7	90.7	91.1	83.6	152.5
63000	71.7	80.7	73.2	76.0	78.9	80.8	81.5	87.5	94.6	99.7	91.1	88.8	80.1	157.5
80000	71.9	79.7	72.2	74.0	76.2	77.9	78.2	84.0	93.7	100.5	89.0	88.1	74.6	164.3

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OSPL 113.1 114.0 114.7 115.0 115.6 115.7 117.4 119.5 123.0 127.7 131.8 130.6 128.5 169.1  
 PNL 126.0 127.2 128.1 128.4 129.1 129.4 130.6 132.4 135.8 140.4 143.6 140.9 138.2  
 PNL 126.0 128.3 129.2 129.7 130.4 130.4 131.8 132.4 135.8 140.4 143.6 140.9 138.2  
 DBA 192.4 200.2 192.9 194.8 197.2 198.9 199.3 205.0 214.2 220.9 209.8 208.7 196.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH245 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1699.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2426.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0217 TAPE = X0217F TEST PT NO = 0217 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0217 X02171

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	72.1	74.2	75.6	77.2	77.5	88.7	81.7	85.0	92.5	95.8	95.6	90.4	170.6
63	68.6	72.6	74.5	76.2	78.0	78.7	81.5	82.5	86.5	94.5	97.8	96.0	91.1	171.8
80	69.4	73.3	76.1	77.5	78.6	79.9	81.4	83.4	87.4	96.1	98.9	96.9	91.4	172.8
100	72.9	75.2	77.8	79.1	80.4	81.4	82.9	85.8	89.3	96.6	99.9	97.3	91.3	173.6
125	79.3	80.6	82.0	81.9	81.8	82.3	83.5	86.3	91.0	96.7	100.3	97.7	91.8	174.1
160	80.1	85.3	86.2	87.1	87.5	86.7	86.2	87.7	91.7	96.1	100.2	98.0	91.1	174.5
200	83.4	83.0	84.0	84.3	85.4	85.1	86.8	88.4	92.3	95.0	100.7	95.7	88.4	174.0
250	84.6	84.9	87.0	86.2	84.5	84.0	86.6	88.9	92.5	94.9	99.4	92.5	85.0	173.1
315	81.1	84.9	87.2	88.1	88.9	86.4	86.4	90.1	93.1	95.9	97.4	90.6	82.1	172.7
400	79.0	82.2	84.5	86.1	87.9	88.6	88.4	88.9	91.8	95.6	96.3	88.4	80.0	172.3
500	76.2	79.3	82.5	84.3	86.0	86.9	88.4	89.4	91.9	94.8	93.3	85.9	78.0	171.2
630	74.7	78.8	81.5	82.8	84.6	85.3	87.5	89.5	91.6	93.3	92.1	84.5	75.7	170.6
800	72.6	76.8	80.1	81.4	84.1	84.4	86.3	89.2	90.5	91.6	90.3	82.4	73.7	169.8
1000	70.0	75.7	78.8	81.0	82.5	83.7	85.3	88.0	89.2	90.0	87.9	79.1	70.5	168.8
1250	68.0	73.9	78.1	79.7	81.7	83.2	85.0	86.3	87.7	88.8	86.3	77.7	67.8	168.3
1600	65.7	70.8	75.4	78.5	79.5	81.3	82.6	84.6	86.0	85.3	82.6	74.3	63.7	167.0
2000	61.4	68.9	72.3	75.9	78.1	79.1	80.9	82.0	83.5	82.7	80.3	70.9	58.7	166.5
2500	57.2	64.4	68.5	73.0	75.2	76.8	77.8	78.8	80.1	78.7	76.2	65.7	52.2	165.8
3150	50.9	59.6	64.3	68.5	71.2	73.9	75.0	76.0	77.3	75.6	65.9	58.2	40.7	166.1
4000	38.0	50.2	54.1	60.4	63.3	65.6	66.4	67.7	69.1	67.6	55.9	45.5	19.5	165.0
5000	24.9	40.3	45.5	51.3	54.9	57.4	58.6	60.2	61.0	59.2	44.5	29.6		167.3
6300	5.5	25.8	29.5	36.6	41.8	44.5	44.7	46.5	47.4	45.1	24.1	3.9		170.5
8000		1.2	4.5	13.9	20.4	23.4	23.0	25.4	26.0	20.2				175.5
10000														182.3
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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0ASPL	90.2	92.6	94.7	95.5	96.5	96.6	98.2	99.8	102.6	106.5	109.3	105.8	99.7	187.0
PNL	94.3	97.3	100.0	101.5	102.9	103.6	104.7	106.3	108.6	111.3	112.2	106.8	99.3	
PNLT	94.3	97.9	100.5	102.2	103.5	104.1	104.7	106.3	108.6	111.9	112.2	107.9	100.4	
DBA	83.0	86.3	89.1	90.7	92.2	92.9	94.3	96.3	98.2	100.0	100.1	93.6	85.9	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH245 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1699.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2426.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0217 TAPE = X02171 TEST PT NO = 0217 NC = AE060 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0218 X0218C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.0	84.8	81.1	82.1	82.2	81.1	81.7	86.4	87.3	92.4	94.8	91.2	99.9	131.7
63	90.7	90.2	87.5	86.8	88.4	87.0	87.6	90.5	91.7	103.0	98.2	91.1	99.8	136.7
80	89.4	93.7	89.7	91.0	90.6	91.7	92.9	91.8	93.2	92.6	94.9	97.4	101.5	135.6
100	89.2	94.0	89.5	92.1	92.9	92.8	94.7	95.3	93.8	94.1	97.2	101.4	105.1	138.0
125	85.7	88.2	90.2	92.2	92.6	92.7	94.6	94.5	93.5	95.3	101.4	105.3	107.8	139.9
160	85.2	82.2	87.7	88.1	88.1	87.5	94.1	90.0	91.2	96.0	102.9	106.1	110.0	140.8
200	86.6	85.4	85.1	86.2	87.5	89.4	93.5	93.2	96.1	96.4	103.1	108.0	111.4	142.2
250	83.8	86.6	86.3	88.1	88.0	89.6	93.5	95.1	96.1	101.9	108.8	112.0	112.4	145.2
315	84.9	86.4	86.4	88.1	89.6	90.9	95.8	95.0	98.7	105.0	110.6	113.8	113.5	146.9
400	85.0	87.5	88.3	89.0	89.9	91.0	102.4	95.3	99.8	107.3	113.2	114.9	112.1	148.2
500	86.2	88.0	89.1	90.5	91.2	92.5	95.7	96.8	101.3	110.1	115.8	115.4	110.1	149.4
630	86.7	88.5	90.7	90.8	92.4	94.0	96.1	98.3	103.0	112.0	116.9	115.4	107.3	150.2
800	89.2	89.0	90.7	92.2	93.6	94.7	97.4	100.3	104.7	112.8	118.4	114.1	104.8	150.9
1000	93.2	92.7	93.5	93.9	94.9	95.7	98.4	101.0	106.2	113.1	117.7	112.9	102.8	150.5
1250	93.3	99.8	96.8	97.5	97.4	97.3	100.4	101.6	107.3	113.1	117.5	111.2	102.2	150.4
1600	104.3	104.2	103.3	101.3	99.2	99.1	101.7	104.0	109.1	112.4	117.8	110.5	102.5	150.9
2000	104.5	104.7	106.6	106.0	102.8	99.4	102.4	104.2	108.8	112.6	116.6	109.2	102.0	150.7
2500	101.5	103.8	105.1	106.1	107.7	105.3	103.2	105.9	109.5	114.3	116.3	109.6	101.8	151.3
3150	98.6	99.7	101.4	102.7	104.8	106.9	107.0	106.2	109.5	114.4	116.4	109.0	102.1	151.3
4000	96.8	97.7	99.8	100.9	101.7	103.4	106.5	107.8	110.2	114.4	114.9	107.7	101.5	150.7
5000	96.3	97.8	99.1	99.8	101.1	101.5	105.2	108.0	111.0	113.8	113.9	107.0	100.7	150.3
6300	94.7	96.0	97.6	98.3	100.7	101.2	104.5	108.2	110.7	112.8	112.3	104.6	98.9	149.6
8000	93.0	95.6	97.2	98.1	98.3	100.9	103.6	106.9	109.9	111.4	110.5	102.7	96.9	148.7
10000	91.5	94.7	96.4	97.2	98.5	100.2	103.0	105.7	109.3	111.4	108.9	102.4	96.1	148.6
12500	89.8	91.7	94.7	95.7	96.8	98.6	101.1	104.0	106.8	108.0	106.3	100.4	95.1	146.9
16000	86.8	90.4	91.6	94.1	95.1	96.3	99.4	101.9	105.0	105.7	104.8	97.9	93.2	146.3
20000	84.4	87.2	89.1	90.9	93.0	94.3	97.1	98.7	101.8	102.5	102.2	96.0	91.2	145.2
25000	81.0	84.4	86.4	89.0	91.0	92.6	95.2	96.7	100.6	101.7	99.2	93.1	88.1	145.9
31500	74.5	79.5	80.8	84.3	85.1	87.2	89.9	91.5	96.5	97.0	94.8	87.3	81.4	144.3
40000	71.0	75.4	77.9	79.8	81.4	83.6	85.9	88.2	93.7	95.9	92.5	84.1	77.5	145.9
50000	67.1	71.8	73.6	75.3	77.2	79.2	80.9	83.9	91.0	95.3	89.6	79.9	72.6	148.3
63000	63.2	69.9	68.4	69.7	71.9	74.6	75.5	80.0	89.1	94.3	89.4	75.3	66.3	152.2
80000	58.3	69.9	66.1	63.7	66.3	69.0	69.1	75.3	84.8	93.3	86.5	68.4	57.5	157.0

ORIGINAL PAGE 19  
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CASPL 110.4 111.3 112.3 112.6 113.1 113.3 115.5 117.3 120.7 124.8 127.9 124.3 121.0 164.3  
PNL 123.2 124.2 125.5 126.2 127.3 127.5 129.1 130.3 133.4 137.7 140.1 134.8 129.4  
PNLT 123.2 124.7 125.5 126.2 128.6 129.1 130.2 130.3 133.4 137.7 140.1 134.8 129.4  
DBA 111.0 111.7 112.9 113.1 113.5 113.4 115.1 116.9 120.4 124.7 127.7 122.5 116.2

NASA DUAL FLOW SHOCK CELL/CGAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH262	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1702.2 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2446.1 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-400-0218	TAPE = X0218C	TEST PT NO = 0218	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0218 X0218F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.7	92.3	90.8	91.1	89.4	89.6	91.6	91.5	95.2	100.6	105.7	109.4	110.9	143.1
315	90.6	92.3	90.8	91.1	91.4	91.1	94.5	92.2	96.5	103.3	108.8	111.2	110.9	144.7
400	92.6	92.8	91.4	91.5	91.7	91.3	101.1	92.6	99.5	107.6	113.1	114.0	112.0	147.8
500	92.4	93.7	93.1	92.3	93.1	92.9	95.0	95.1	101.7	110.4	115.5	116.0	112.5	149.8
630	93.9	94.4	94.0	94.0	94.3	94.4	95.4	96.6	103.5	111.3	117.5	115.9	112.7	150.8
800	94.3	94.9	95.7	94.4	95.7	95.3	96.6	98.4	105.4	112.2	117.5	116.1	113.4	151.1
1000	96.9	95.4	95.8	95.8	96.7	96.4	97.7	99.3	106.5	112.2	117.3	114.5	112.9	150.8
1250	98.8	97.7	97.5	96.8	99.2	98.1	99.9	99.9	108.5	111.7	117.9	114.0	113.5	151.2
1600	104.7	105.1	100.8	100.3	101.2	100.1	101.4	102.5	108.6	112.2	117.0	113.1	113.3	151.1
2000	111.4	110.1	107.9	104.5	104.9	100.7	102.4	103.0	109.5	114.2	116.9	113.8	113.6	152.5
2500	110.7	109.8	110.7	109.0	110.6	106.9	103.5	105.0	110.1	114.8	117.6	113.8	114.4	153.7
3150	109.1	109.9	110.5	110.3	108.1	108.9	107.7	105.8	111.3	115.2	116.4	112.6	113.9	153.6
4000	106.2	106.3	107.0	107.1	105.4	106.0	107.8	107.9	112.1	114.6	115.3	111.8	113.0	152.5
5000	104.3	104.4	105.6	105.6	105.1	104.5	106.7	108.2	111.7	113.4	113.5	109.1	110.9	151.4
6300	103.7	104.5	105.0	104.6	104.8	104.2	106.0	108.3	110.9	112.0	111.5	107.0	108.5	150.5
8000	102.0	102.5	103.2	103.6	102.4	103.9	105.0	107.0	110.5	112.1	110.1	106.7	107.8	150.1
10000	100.2	102.0	102.7	102.6	102.5	103.2	104.4	105.7	108.8	109.6	108.5	106.1	108.4	149.4
12500	98.4	100.8	101.7	101.5	100.9	101.6	103.0	104.5	107.4	107.9	107.5	104.1	106.9	148.7
16000	96.2	97.3	99.5	99.4	99.7	99.3	101.2	102.4	105.0	105.5	105.9	103.1	105.7	148.1
20000	95.5	97.9	97.6	98.6	97.6	97.3	99.1	99.4	104.1	104.8	102.8	100.1	102.7	148.1
25000	92.5	94.1	94.5	94.8	95.6	95.6	97.1	97.1	100.3	100.2	98.3	93.9	94.9	146.8
31500	88.3	90.4	91.0	92.1	89.7	90.2	91.4	91.5	98.3	99.9	96.9	91.5	91.9	147.2
40000	80.9	84.7	84.6	86.5	86.0	86.6	87.3	88.2	96.0	99.8	94.4	87.7	87.4	149.0
50000	77.1	80.3	81.3	81.7	81.8	82.2	82.4	83.9	95.0	99.8	95.1	84.1	82.0	152.6
63000	72.3	75.7	76.1	76.2	76.5	77.6	76.9	80.0	92.2	100.2	93.7	78.7	74.7	157.3
80000	66.8	72.3	69.3	69.1	70.2	72.0	70.5	75.2	82.4	90.4	83.9	68.9	64.9	154.5
GASPL	117.2	117.1	117.1	116.4	116.2	115.4	116.1	116.9	121.3	124.7	127.8	125.4	124.8	165.4
PNL	130.0	130.1	130.4	129.9	129.6	128.8	129.0	129.3	133.9	137.4	139.5	136.5	136.8	
PNLT	131.3	131.6	130.4	129.9	130.9	128.8	130.0	129.3	133.9	137.4	139.5	136.5	136.8	
DBA	188.6	193.4	191.6	191.6	192.3	193.7	192.7	196.7	205.8	213.5	207.1	192.7	189.2	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE	= ADH262	TEST DATE	= 08-24-82	LOCAT	= C41 ANECH CH	CONFIG	= 2	MODEL	= AX	FLTVEL	= 400. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 71.00	PAMB HG	= 29.40	RELHUM	= 88.3 PCT
WIND DIR	=	DEG		WIND VEL	=	MPH		EXT DIST	=	40.0 FT	
								EXT CONFIG	=	ARC	
								MIKE HT	=		

FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1702.2 FPS	AE8	=	4.0 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2446.1 FPS	AE18	=	18.0 SQ IN

RU...	=	82F-400-0218	TAPE	=	X0218F	TEST PT NO	=	0218	NC	=	AE060	CORR FAN SPEED	=	RPM
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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0218 X02181

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.1	72.9	72.6	73.4	74.0	73.7	83.4	74.5	80.7	87.8	91.7	90.4	85.0	165.8
63	70.9	73.8	74.3	74.2	75.4	75.3	77.3	77.0	82.8	90.5	94.1	92.3	85.5	167.8
80	72.4	74.5	75.2	75.9	76.6	76.8	77.7	78.4	84.6	91.4	96.0	92.2	85.6	168.8
100	72.8	74.9	76.8	76.2	77.9	77.6	78.8	80.2	86.5	92.1	95.9	92.3	86.1	169.2
125	75.2	75.3	76.8	77.6	78.8	78.7	79.9	81.0	87.5	92.1	95.6	90.5	85.4	168.8
160	77.0	77.4	78.4	78.4	81.2	80.3	82.0	81.5	89.4	91.5	96.0	89.8	85.6	169.2
200	82.6	84.6	81.5	81.7	83.1	82.1	83.3	84.0	89.3	91.8	94.9	88.6	85.0	169.1
250	88.9	89.4	88.4	85.7	86.6	82.5	84.0	84.3	90.0	93.4	84.5	88.8	84.6	170.6
315	87.9	88.8	90.8	90.0	92.0	88.5	84.9	85.9	90.2	93.7	94.7	88.3	84.6	171.7
400	85.8	88.4	90.3	90.9	89.2	90.1	88.8	86.4	91.1	93.8	93.0	86.4	83.1	171.6
500	82.3	84.4	86.5	87.5	86.2	87.0	88.6	88.3	91.5	92.8	91.5	85.0	81.3	170.6
630	80.0	82.1	84.7	85.6	85.7	85.3	87.3	88.2	90.8	91.2	89.2	81.6	78.0	169.4
800	78.9	81.8	83.8	84.4	85.1	84.7	86.3	88.0	89.8	89.4	86.7	78.8	74.6	168.6
1000	76.7	79.6	81.8	82.6	82.5	84.2	85.2	86.6	89.1	89.2	84.8	77.9	72.7	168.1
1250	74.4	78.7	81.1	82.1	82.5	83.5	84.5	85.1	87.2	86.4	82.8	76.4	71.8	167.4
1600	71.7	76.9	79.6	80.6	80.6	81.5	82.7	83.6	85.4	84.0	80.9	73.0	68.0	166.8
2000	68.6	72.8	77.0	78.3	79.2	79.1	80.8	81.2	82.5	81.0	78.3	70.4	63.7	166.1
2500	66.1	72.2	74.3	76.8	76.7	76.6	78.2	77.6	80.8	79.1	73.4	64.6	55.8	166.1
3150	59.8	66.0	69.3	71.4	73.2	73.6	74.7	73.8	75.1	72.1	65.6	53.4	39.7	164.8
4000	49.3	57.6	62.0	65.4	64.4	65.3	66.1	64.9	69.3	67.1	57.9	42.1	22.2	165.2
5000	32.2	44.3	49.3	54.4	55.7	56.8	57.0	56.2	60.7	59.3	45.6	24.6		167.0
6300	10.6	25.6	34.0	38.8	41.4	42.6	41.9	41.1	47.6	45.1	28.6			170.6
8000			7.4	14.1	18.0	20.2	18.4	17.9	23.6	20.7				175.3
10000														172.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	94.1	95.6	96.8	96.8	97.2	96.4	96.9	97.0	100.9	103.4	105.3	100.6	95.5	183.4
PNL	98.9	101.2	103.1	103.8	104.1	103.7	104.0	104.2	107.4	109.0	108.6	102.3		97.6
PNLT	99.5	102.0	103.7	104.3	104.8	103.7	104.0	104.2	108.0	109.5	108.6	102.3		97.6
DBA	88.5	90.8	92.7	93.3	93.3	93.3	94.2	94.8	97.4	98.0	96.7	90.1		86.1

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH262 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 88.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1702.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2446.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0218 TAPE = X02181 TEST PT NO = 0218 NC = AEO60 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0219 X0219C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	83.3	81.6	88.1	89.2	87.3	88.0	88.4	88.8	90.4	87.5	97.0	97.6	133.2
63	92.7	92.0	88.0	96.1	98.1	95.7	96.9	97.3	95.7	98.3	104.9	103.6	104.5	140.8
80	89.2	93.2	89.7	90.5	91.1	92.7	94.4	92.8	93.7	93.3	95.2	98.4	100.5	135.9
100	89.5	95.5	91.0	93.8	94.4	93.5	94.9	96.3	94.8	97.3	99.0	102.7	105.1	139.0
125	85.9	89.2	91.7	93.2	94.8	95.0	95.8	96.2	95.7	99.0	104.7	107.8	109.3	142.2
160	87.4	85.5	90.5	91.6	92.1	91.2	99.4	93.8	94.5	100.3	106.2	109.1	112.3	143.8
200	88.8	87.9	89.6	91.9	93.3	94.4	97.0	96.4	99.6	101.4	107.3	111.5	114.2	145.6
250	88.3	91.8	92.1	93.1	92.5	93.6	97.2	99.1	100.3	106.9	113.0	116.0	116.1	149.2
315	88.4	91.4	90.9	93.4	95.3	95.9	99.8	98.7	102.4	109.5	114.4	117.6	117.0	150.7
400	88.7	92.3	92.5	94.0	95.4	95.0	106.4	99.8	103.8	112.3	117.2	119.2	117.3	152.6
500	90.0	92.3	93.6	94.8	95.4	96.5	99.2	100.6	105.8	114.6	118.8	119.7	117.8	153.6
630	90.9	93.2	95.2	95.4	96.6	97.7	99.1	102.0	106.7	116.3	120.4	120.9	118.8	154.9
800	93.9	95.2	96.8	97.2	98.4	99.0	100.9	104.0	108.5	116.8	121.7	121.1	119.0	155.7
1000	99.7	100.2	100.2	99.4	99.6	99.7	101.9	104.5	110.0	116.6	121.9	121.9	119.8	156.2
1250	102.0	104.8	104.8	104.5	104.0	103.8	104.2	106.1	110.6	116.7	122.0	121.5	118.7	156.2
1600	104.5	103.2	103.6	102.8	103.5	103.1	104.7	107.2	112.4	115.4	122.6	120.0	116.2	155.8
2000	106.5	105.2	105.3	104.5	103.6	102.7	104.9	107.5	112.1	115.9	121.9	117.2	113.7	155.1
2500	104.0	106.0	106.8	106.6	107.2	105.1	105.3	109.1	113.0	117.5	120.8	115.6	112.1	155.0
3150	102.1	103.9	104.9	105.0	106.1	106.9	107.3	109.0	112.5	117.1	119.4	113.8	110.6	154.1
4000	100.0	101.2	102.8	103.7	104.4	105.7	107.3	109.4	112.2	116.4	117.4	112.5	108.7	153.0
5000	98.8	101.0	102.4	102.8	104.1	104.8	106.9	109.5	113.0	116.1	116.9	111.7	107.5	152.9
6300	97.2	99.5	101.3	101.8	103.7	104.0	106.2	109.7	111.7	114.3	115.3	110.1	106.6	151.8
8000	95.3	98.6	100.2	100.9	102.3	103.4	105.3	108.4	110.9	112.7	113.7	107.7	104.9	150.8
10000	93.2	97.2	99.2	100.2	101.5	103.5	105.0	107.2	109.3	112.4	112.6	106.8	103.6	150.5
12500	91.6	94.4	97.0	98.7	99.8	101.8	102.8	105.5	107.8	109.7	110.5	105.3	101.8	149.3
16000	88.7	93.3	94.7	97.1	98.3	99.2	101.3	103.6	105.9	107.4	108.7	103.3	99.9	148.7
20000	86.6	90.1	92.3	94.3	96.2	97.7	99.0	100.6	103.2	104.4	106.6	101.2	98.1	148.0
25000	83.4	87.5	90.0	92.4	93.8	95.7	97.3	99.6	102.5	104.0	106.1	98.2	94.0	149.3
31500	76.3	81.8	83.6	87.3	88.7	90.8	91.8	94.6	98.6	100.7	103.3	93.7	88.2	148.7
40000	72.9	79.0	81.5	83.7	85.5	87.4	89.0	92.3	96.3	98.9	102.5	92.0	85.9	151.1
50000	69.1	75.5	77.3	79.7	82.2	84.4	85.9	89.6	95.2	100.0	99.3	90.1	83.1	154.0
63000	66.4	74.7	73.7	75.7	79.2	81.3	82.0	87.8	94.1	99.9	99.8	87.8	80.1	159.1
80000	63.7	73.9	72.7	73.5	76.2	77.6	78.2	85.0	93.2	100.0	97.9	85.4	73.6	165.0

GASPL 112.6 113.7 114.5 114.6 115.4 115.7 117.5 119.6 123.1 127.8 131.8 130.5 128.5 169.5  
PNL 125.6 127.0 127.9 128.1 128.8 129.2 130.6 132.6 135.9 140.5 143.7 140.7 138.0  
PNLT 125.6 128.1 127.9 129.2 128.8 129.2 131.8 132.6 135.9 140.5 143.7 140.7 138.0  
DBA 113.3 114.1 114.8 114.7 115.3 115.4 116.9 119.3 123.0 127.6 131.7 129.7 127.1

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH24/ TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1696.6 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2436.0 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-0219 TAPE = X0219C TEST PT NO = 0219 NC = AE060 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0219 X0219F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	83.3	81.6	88.1	89.2	87.3	88.0	88.4	88.8	90.4	97.5	97.0	97.6	133.2
63	92.7	92.0	88.0	96.1	98.1	95.7	96.9	97.3	95.7	98.3	104.9	103.6	104.5	140.8
80	89.2	93.2	89.7	90.5	91.1	92.7	94.4	92.8	93.7	93.3	95.2	98.4	100.5	135.9
100	89.5	95.5	91.0	93.8	94.4	93.5	94.9	96.3	94.8	97.3	99.0	102.7	105.1	139.0
125	85.9	89.2	91.7	93.2	94.8	95.0	95.8	96.2	95.7	99.0	104.7	107.8	109.3	142.2
160	87.4	85.5	90.5	91.6	92.1	91.2	99.4	93.8	94.5	100.3	106.2	109.1	112.3	143.8
200	88.8	87.9	89.6	91.9	93.3	94.4	97.0	96.4	99.6	101.4	107.3	111.5	114.2	145.8
250	88.3	91.8	92.1	93.1	92.5	93.6	97.2	99.1	100.3	106.9	113.0	116.0	116.1	149.2
315	88.4	91.4	90.9	93.4	95.3	95.9	99.8	98.7	102.4	109.5	114.4	117.6	117.0	150.7
400	88.7	92.3	92.5	94.0	95.4	95.0	106.4	99.8	103.8	112.3	117.2	119.2	117.3	152.6
500	90.0	92.3	93.6	94.8	95.4	96.5	99.2	100.6	105.8	114.6	118.8	119.7	117.8	153.6
630	90.9	93.2	95.2	95.4	96.6	97.7	99.1	102.0	106.7	116.3	120.4	120.9	118.8	154.9
800	93.9	95.2	96.8	97.2	98.4	99.0	100.9	104.0	108.5	116.8	121.7	121.1	119.0	155.7
1000	99.7	100.2	100.2	99.4	99.6	99.7	101.9	104.5	110.0	116.6	121.9	121.9	119.8	156.2
1250	102.0	104.8	104.8	104.5	104.0	103.8	104.2	106.1	110.6	116.7	122.0	121.5	118.7	156.2
1600	104.5	103.2	103.6	102.8	103.5	103.1	104.7	107.2	112.4	115.4	122.6	120.0	116.2	155.8
2000	106.5	105.2	105.3	104.5	103.6	102.7	104.9	107.5	112.1	115.9	121.9	117.2	113.7	155.1
2500	104.0	106.0	106.8	106.6	107.2	105.1	105.3	109.1	113.0	117.5	120.8	115.6	112.1	155.0
3150	102.1	103.9	104.9	105.0	106.1	106.9	107.3	109.0	112.5	117.1	119.4	113.8	110.6	154.1
4000	100.0	101.2	102.8	103.7	104.4	105.7	107.3	109.4	112.2	116.4	117.4	112.5	108.7	153.0
5000	98.8	101.0	102.4	102.8	104.1	104.8	106.9	109.5	113.0	116.1	116.9	111.7	107.5	152.9
6300	97.2	99.5	101.3	101.8	103.7	104.0	106.2	109.7	111.7	114.3	115.3	110.1	106.6	151.8
8000	95.3	98.6	100.2	100.9	102.3	103.4	105.3	108.4	110.9	112.7	113.7	107.7	104.9	150.8
10000	93.2	97.2	99.2	100.2	101.5	103.5	105.0	107.2	109.3	112.4	112.6	106.8	103.6	150.5
12500	91.6	94.4	97.0	98.7	99.8	101.8	102.8	105.5	107.8	109.7	110.5	105.3	101.8	149.3
16000	88.7	93.3	94.7	97.1	98.3	99.2	101.3	103.6	105.9	107.4	108.7	103.3	99.9	148.7
20000	86.6	90.1	92.3	94.3	96.2	97.7	99.0	100.6	103.2	104.4	106.6	101.2	98.1	148.0
25000	83.4	87.5	90.0	92.4	93.8	95.7	97.3	99.6	102.5	104.0	106.1	98.2	94.0	149.3
31500	76.3	81.8	83.6	87.3	88.7	90.8	91.8	94.6	98.6	100.7	103.3	93.7	88.2	148.7
40000	72.9	79.0	81.5	83.7	85.5	87.4	89.0	92.3	96.3	98.9	102.5	92.0	85.9	151.1
50000	69.1	75.5	77.3	79.7	82.2	84.4	85.9	88.6	95.2	100.0	99.3	90.1	83.1	154.0
63000	66.4	74.7	73.7	75.7	79.2	81.3	82.0	87.8	94.1	99.9	99.8	87.8	80.1	159.1
80000	63.7	73.9	72.7	73.5	76.2	77.6	78.2	85.0	93.2	100.0	97.9	85.4	73.6	165.0
GASPL	112.6	113.7	114.5	114.6	115.4	115.7	117.5	119.6	123.1	127.8	131.8	130.5	128.5	169.5
PNL	125.6	127.0	127.9	128.1	128.8	129.2	130.6	132.6	135.9	140.5	143.7	140.7	138.0	
PNLT	125.6	128.1	127.9	129.2	128.8	129.2	131.8	132.6	135.9	140.5	143.7	140.7	138.0	
DBA	184.6	194.5	193.4	194.4	197.2	198.8	199.4	205.9	213.7	220.4	218.6	206.2	195.5	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH247	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 79.1 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1696.6 FPS	AE8 = 4.0 SQ IN
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2436.0 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0219 TAPE = X0219F TEST PT NO = 0219 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0219 X02191

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ	67.3	72.4	73.7	75.9	77.7	77.5	88.7	81.7	85.0	92.5	95.8	95.6	90.4	170.6
63	68.6	72.4	74.7	76.7	77.7	79.0	81.5	82.5	87.0	94.7	97.3	96.0	90.8	171.6
80	69.4	73.3	76.4	77.2	78.9	80.1	81.4	83.9	87.9	96.4	98.9	97.1	91.7	173.0
100	72.4	75.2	77.8	79.1	80.6	81.4	83.1	85.8	89.6	96.8	100.1	97.3	91.8	173.8
125	78.0	80.1	81.2	81.1	81.8	82.0	84.0	86.3	91.0	96.5	100.3	97.9	92.3	174.2
160	80.1	84.6	85.7	86.1	86.0	86.0	86.2	87.7	91.4	96.4	100.2	97.2	90.9	174.2
200	82.4	82.7	84.3	84.3	85.4	85.1	86.6	88.7	93.0	95.0	100.4	95.4	87.9	173.9
250	84.1	84.4	85.8	85.7	85.2	84.5	86.6	88.7	92.5	95.1	99.4	92.2	84.7	173.1
315	81.1	84.9	87.0	87.6	88.6	86.6	86.7	90.1	93.1	96.4	97.9	90.1	82.3	173.0
400	78.8	82.4	84.7	85.6	87.2	88.1	88.4	89.6	92.3	95.6	96.0	87.6	79.8	172.1
500	76.2	79.3	82.3	84.0	85.3	86.6	88.1	89.7	91.7	94.6	93.6	85.7	77.0	171.1
630	74.5	78.8	81.5	82.8	84.6	85.5	87.5	89.5	92.1	93.8	92.6	84.2	74.7	171.0
800	72.4	76.8	80.1	81.6	84.1	84.4	86.6	89.4	90.5	91.6	90.5	81.9	72.7	169.9
1000	70.0	75.7	78.8	80.5	82.5	83.7	85.5	88.0	89.5	89.7	88.4	78.9	69.7	168.9
1250	67.5	73.9	77.6	79.7	81.5	83.7	85.0	86.6	87.7	89.1	86.8	77.2	67.1	168.5
1600	64.9	70.5	74.3	77.8	79.5	81.8	82.6	84.6	85.7	85.8	83.8	74.3	62.9	167.3
2000	61.1	68.9	72.3	75.9	77.8	79.1	80.9	82.5	83.5	82.9	81.1	70.6	57.9	166.7
2500	57.2	64.4	69.0	72.5	75.2	77.0	78.1	78.8	79.9	78.7	77.2	65.7	51.2	166.0
3150	50.6	59.3	64.8	69.0	71.5	73.7	75.0	76.2	77.3	75.9	73.3	57.7	38.7	167.3
4000	37.3	49.0	54.6	60.7	63.3	65.9	66.4	67.9	69.6	67.9	64.3	44.3	18.5	166.8
5000	24.1	38.6	46.2	51.6	55.2	57.6	58.6	60.2	61.0	58.5	53.7	28.9		169.1
6300	2.5	20.8	30.0	36.9	41.8	44.8	45.5	46.8	47.9	45.3	32.7	2.9		172.0
8000			5.0	13.6	20.6	23.9	23.5	25.7	25.5	20.5	2.6			177.1
10000														183.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89.8	92.4	94.3	95.1	96.2	96.6	98.3	99.9	102.8	106.7	109.3	105.7	99.8	187.4
PNL	93.9	97.2	99.8	101.2	102.6	103.5	104.8	106.5	108.7	111.4	112.5	106.4	99.2	
PNLT	93.9	97.7	99.8	101.8	102.6	103.5	104.8	106.5	109.2	112.0	113.6	107.6	99.2	
DBA	82.7	86.2	88.9	90.4	92.0	93.0	94.4	96.4	98.3	100.1	100.3	93.3	85.7	
MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)    SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)    DIAMETER RATIO = 7.973    FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166														
VEHICL	= ADH247		TEST DATE = 08-23-82		LOCAT = C41 ANECH CH		CONFIG = 2		MODEL = AX		FLTVEL = 0. FPS			
IAPLHA	= SB59		IEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 78.00		PAMB HG = 29.35		RELHUM = 79.1 PCT			
WIND DIR			DEG WIND VEL =		MPH		EXT DIST = 2400.0 FT		EXT CONFIG = SL		MIKE HT =		NBFR =	
FNIN1	= LBS		XNL =		RPM		XNH =		RPM		V8 = 1696.6 FPS		AE8 = 4.0 SQ IN	
FNRAMB	= LBS		XNLR =		RPM		XNHR =		RPM		V18 = 2436.0 FPS		AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0219    TAPE = X02191    TEST PT NO = 0219    NC = AE060    CORR FAN SPEED =    RPM														

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P1183-03

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0220 X0220F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	90.9	92.8	91.2	91.5	90.2	89.8	92.1	91.3	95.2	100.9	106.0	109.9	111.4	143.5
315	90.9	92.8	91.2	91.5	91.6	91.1	94.7	92.4	96.5	103.5	108.5	111.7	111.4	145.0
400	92.6	92.8	91.4	92.0	92.3	91.0	100.6	92.8	99.3	107.4	112.8	114.2	112.2	147.8
500	92.9	93.4	93.2	92.9	93.6	92.6	94.7	95.0	101.3	110.5	115.6	116.7	113.1	150.1
630	94.7	94.2	94.3	94.3	94.8	94.4	95.2	96.4	103.8	111.4	116.8	116.3	112.5	150.6
800	94.6	95.4	95.5	94.9	95.8	95.3	96.4	98.4	106.0	111.7	117.5	116.8	114.2	151.4
1000	96.4	95.9	96.6	96.3	96.7	96.4	98.1	99.5	106.9	112.2	117.0	115.4	113.3	150.9
1250	98.9	98.0	97.6	97.6	99.2	98.6	99.7	100.5	108.9	111.4	118.0	114.4	114.1	151.3
1600	103.9	104.6	101.4	100.4	101.4	100.4	101.4	102.4	108.9	111.8	117.4	113.9	113.6	151.3
2000	110.2	109.2	107.3	103.7	104.2	100.7	101.9	103.1	110.4	113.9	117.4	114.7	115.3	152.7
2500	109.4	108.7	109.3	107.7	109.1	105.7	102.7	105.2	110.3	114.1	118.6	114.6	115.5	153.6
3150	108.4	108.9	109.0	109.3	107.1	107.6	107.0	105.7	112.5	115.0	116.4	113.9	114.6	153.4
4000	105.9	106.6	105.8	106.1	104.6	105.2	107.3	107.3	112.5	113.8	115.5	112.0	112.5	152.3
5000	103.8	103.9	104.8	104.8	104.1	104.5	105.9	107.9	112.1	112.7	114.2	111.4	112.1	151.5
6300	103.5	104.0	104.2	103.9	104.5	103.7	105.3	107.4	111.4	111.6	111.7	108.6	110.3	150.5
8000	102.0	103.0	102.7	103.0	102.8	103.1	104.1	107.1	110.2	110.8	110.6	108.2	109.3	149.9
10000	99.9	101.7	101.7	101.6	101.8	102.7	104.0	105.6	108.8	108.9	109.3	106.8	108.3	149.2
12500	98.4	100.6	100.9	100.7	101.2	101.8	102.4	104.2	107.7	106.9	107.8	105.6	106.7	148.6
16000	98.5	99.3	100.4	100.6	99.4	99.0	100.9	101.8	105.7	105.2	106.1	103.3	105.6	148.3
20000	95.5	97.6	97.6	98.3	97.4	97.6	99.1	99.4	104.1	104.6	102.9	100.7	102.8	148.1
25000	92.5	93.4	94.3	95.0	95.3	95.8	96.9	97.4	99.5	100.7	97.8	94.7	95.2	146.7
31500	88.3	90.4	91.0	92.1	89.4	90.2	90.9	91.2	97.8	99.4	96.6	91.5	91.9	146.9
40000	81.2	84.2	84.3	86.2	86.0	86.6	87.6	89.0	96.0	99.5	94.4	88.0	87.9	148.9
50000	77.1	80.3	80.6	81.4	82.1	82.7	82.4	84.7	95.2	99.5	94.6	85.1	82.5	152.5
63000	71.8	75.2	74.6	77.2	76.5	78.3	76.7	81.5	93.5	100.2	93.0	79.2	75.4	157.3
80000	65.8	71.8	68.8	72.1	69.7	72.2	69.7	77.0	83.7	90.4	83.2	69.4	65.6	154.6

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OASPL 116.4 116.5 116.2 115.6 115.4 114.8 115.8 116.7 121.8 124.3 127.9 126.2 125.4 165.4  
 PNL 129.2 129.5 129.3 129.2 128.6 128.0 128.5 129.0 134.3 137.0 140.1 137.4 137.6  
 PNLT 130.4 129.5 129.3 129.2 129.8 128.0 129.5 129.0 134.3 137.0 140.1 137.4 137.6  
 DBA 187.8 193.0 190.8 193.7 192.1 194.1 192.2 198.3 206.9 213.5 206.4 193.2 189.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH263 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2449.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0220 TAPE = X0220F TEST PT NO = 0220 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0220 X0220C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.5	85.8	81.8	82.6	82.7	81.3	81.7	87.6	87.8	94.4	96.3	92.2	99.6	132.5
63	89.9	90.0	87.5	86.5	90.1	87.0	88.1	92.3	90.2	102.3	98.4	91.1	98.8	136.3
80	88.9	93.5	89.5	91.3	91.1	91.5	92.6	91.5	92.7	92.1	94.9	96.1	101.0	135.2
100	89.0	94.3	89.5	92.1	92.9	92.3	94.7	95.1	93.0	93.8	97.0	101.2	105.8	138.0
125	86.2	88.4	90.0	91.4	92.3	92.5	93.8	94.0	93.0	94.8	101.4	105.3	108.0	139.9
160	84.9	82.7	88.0	87.8	87.9	88.0	94.4	90.0	91.7	96.3	102.9	106.1	110.3	141.0
200	86.6	85.6	85.4	86.2	88.0	89.1	93.5	93.2	96.1	96.7	103.3	108.5	111.7	142.5
250	83.8	86.8	86.6	88.4	88.7	89.8	94.0	94.9	96.3	101.9	109.0	112.5	112.9	145.6
315	84.9	86.4	86.4	88.6	89.8	90.9	96.1	95.2	98.7	105.2	110.9	114.3	114.0	147.3
400	85.2	87.0	88.3	89.5	90.4	90.8	101.9	95.6	99.8	107.6	113.0	115.4	112.6	148.4
500	87.0	87.8	89.3	90.8	91.7	92.3	95.4	96.8	101.3	110.1	115.8	115.9	110.6	149.6
630	86.9	89.0	90.5	91.3	92.9	94.0	95.9	98.0	102.5	112.0	116.9	116.1	108.0	150.4
800	88.7	89.5	91.5	92.7	93.9	94.7	97.1	100.3	105.0	112.8	117.7	114.4	104.5	150.6
1000	93.2	93.0	93.5	94.6	94.9	95.7	98.6	101.0	106.5	112.3	117.4	113.4	103.5	150.3
1250	97.8	99.6	97.6	97.7	97.4	97.8	100.2	102.1	107.6	112.9	117.0	111.9	102.5	150.2
1600	103.3	103.4	102.8	100.6	99.5	99.3	101.7	103.7	109.3	111.9	117.8	110.7	103.0	150.8
2000	103.3	103.7	105.3	104.7	102.1	99.4	101.9	104.2	109.1	112.1	116.9	110.0	102.2	150.6
2500	100.7	102.3	103.8	105.1	106.2	104.1	102.2	105.9	110.0	113.5	116.3	110.1	103.3	151.0
3150	98.4	99.9	100.2	101.7	103.8	105.6	106.2	106.0	109.5	113.4	117.1	109.5	103.1	151.2
4000	96.3	97.2	99.1	100.2	100.9	102.6	106.0	107.1	111.2	113.9	114.7	108.7	102.0	150.5
5000	96.0	97.3	98.4	99.0	100.1	101.5	104.4	107.7	111.5	113.1	114.2	107.2	100.2	150.2
6300	94.7	96.5	97.1	98.3	100.5	100.7	103.7	107.2	110.9	111.8	112.6	106.4	99.6	149.4
8000	92.8	95.3	96.2	97.1	98.6	100.1	102.6	106.9	110.1	110.7	110.2	103.7	97.9	148.5
10000	91.5	94.4	95.7	96.5	97.7	99.7	102.5	105.4	108.8	109.6	108.9	103.1	96.6	147.9
12500	89.3	91.4	94.0	95.7	96.6	98.8	100.6	103.8	106.8	107.2	107.0	101.1	95.1	146.8
16000	86.8	90.1	91.6	93.9	94.8	96.0	99.1	101.4	105.2	104.7	105.0	99.4	92.4	146.1
20000	84.4	86.5	88.9	91.2	92.8	94.6	97.1	98.7	102.5	102.3	102.5	96.3	91.2	145.4
25000	81.0	84.4	86.4	89.0	90.7	92.8	95.0	97.0	100.6	101.4	99.2	93.6	88.1	145.8
31500	74.7	79.0	80.5	84.0	84.8	87.2	89.4	91.2	95.8	97.5	94.3	88.1	81.6	144.1
40000	71.0	75.4	77.2	79.6	81.4	83.6	86.1	89.0	93.2	95.3	92.2	84.1	77.5	145.6
50000	66.6	71.3	72.1	76.3	77.5	79.7	80.9	84.7	91.0	95.0	89.6	80.2	73.1	148.2
63000	62.2	69.3	67.9	72.7	71.9	75.3	75.3	81.5	89.3	94.1	88.9	76.3	66.8	152.1
80000	59.0	69.6	65.9	63.5	65.8	69.2	68.3	77.0	86.1	93.3	85.7	68.9	58.2	157.1

GASPL 109.7 110.7 111.4 111.9 112.4 112.7 114.9 117.0 121.0 124.2 127.8 124.9 121.4 164.2  
 PNL 122.4 123.6 124.5 125.5 126.4 126.8 128.5 129.9 133.9 137.1 140.4 135.3 130.0  
 PNL 122.4 124.1 124.5 125.5 127.5 126.8 129.5 129.9 133.9 137.1 140.4 135.3 130.0  
 DBA 110.2 111.1 111.9 112.2 112.6 112.7 114.5 116.6 120.8 124.1 127.7 123.1 116.8

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH263 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2449.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0220 TAPE = X0220C TEST PT NO = 0220 NC = AE060 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0220 X02201

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.1	72.9	72.6	73.9	74.6	73.5	82.9	74.8	80.5	87.6	91.4	90.6	85.2	165.8
63	71.5	73.5	74.4	74.8	75.9	75.1	77.0	76.9	82.5	90.6	94.1	93.0	86.1	168.1
80	73.2	74.2	75.4	76.1	77.1	76.8	77.5	78.3	84.9	91.5	95.3	92.6	85.4	168.6
100	73.0	75.4	76.6	76.7	78.2	77.6	78.6	80.3	87.0	91.7	96.0	93.0	87.0	169.4
125	74.7	75.8	77.6	78.1	78.9	78.7	80.3	81.2	87.9	92.1	95.3	91.4	85.8	168.9
160	77.0	77.7	78.4	79.2	81.2	80.8	81.8	82.1	89.8	91.1	96.1	90.2	86.2	169.4
200	81.8	84.1	82.1	81.9	83.3	82.4	83.3	83.8	89.6	91.4	95.3	89.4	85.3	169.4
250	87.8	88.5	87.7	84.9	85.8	82.5	83.6	84.3	90.8	93.1	95.0	89.7	86.4	170.8
315	86.5	87.7	89.5	88.7	90.5	87.2	84.1	86.2	90.4	93.0	95.8	89.1	85.7	171.7
400	85.0	87.4	88.8	89.9	88.2	88.9	88.1	86.3	92.3	93.5	93.0	87.7	83.8	171.4
500	82.1	84.7	85.2	86.5	85.5	86.2	88.2	87.6	92.0	92.0	91.7	85.2	80.7	170.3
630	79.5	81.6	83.9	84.9	84.7	85.3	86.5	88.0	91.3	90.5	89.9	83.9	79.3	169.6
800	78.6	81.3	83.0	83.7	84.8	84.2	85.6	87.2	90.2	89.0	86.9	80.4	76.3	168.5
1000	76.7	80.1	81.3	82.6	82.8	83.5	84.3	86.7	88.8	87.8	85.3	79.4	74.2	168.0
1250	74.1	78.5	80.1	81.1	81.8	83.0	84.0	85.0	87.2	85.6	83.5	77.2	71.8	167.2
1600	71.7	76.7	78.9	79.8	80.9	81.8	82.1	83.3	85.6	83.1	81.2	74.6	67.7	166.7
2000	70.8	74.8	78.0	79.4	79.0	78.9	80.5	80.7	83.3	80.7	78.5	70.6	63.7	166.4
2500	66.1	71.9	74.3	76.5	76.4	76.9	78.1	77.6	80.8	78.9	73.5	65.2	55.9	166.1
3150	59.8	65.2	69.1	71.7	73.0	73.8	74.5	74.1	74.3	72.6	65.1	54.2	39.9	164.8
4000	49.3	57.6	62.0	65.4	64.1	65.3	65.5	64.6	68.8	66.6	57.6	42.1	22.2	164.9
5000	32.4	43.8	49.1	54.2	55.7	56.8	57.2	56.9	60.7	59.1	45.6	24.9		167.0
6300	10.6	25.6	33.2	38.6	41.7	43.1	41.9	41.8	47.9	44.9	28.0			170.5
8000			5.9	15.1	18.0	20.9	18.1	19.4	24.8	20.7				175.4
10000														172.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	93.2	95.0	95.9	96.0	96.4	95.7	96.4	96.8	101.3	103.0	105.4	101.3	96.1	183.4
PNL	98.2	100.7	102.3	103.2	103.4	103.1	103.5	104.0	107.8	108.6	109.1	103.1	98.4	
PNLT	98.9	100.7	102.9	103.2	103.9	103.1	103.5	104.0	108.4	109.1	109.1	103.1	98.4	
DBA	87.9	90.4	91.8	92.6	92.7	92.8	93.6	94.5	97.7	97.3	97.1	91.2	86.9	

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OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH263	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.45	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNINI = LBS	XNL =	RPM	XNH =	RPM	V8 = 1705.9 FPS
FNRAMB = LBS	XNLR =	RPM	XNHR =	RPM	V18 = 2449.7 FPS
					AE8 = 4.0 SQ IN
					AE18 = 18.0 SQ IN

RUNPT = 82F-400-0220 TAPE = X02201 TEST PT NO = 0220 NC = AE060 CORR FAN SPEED = RPM

196

P1185-03

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0221 X0221C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.3	84.6	83.1	88.6	87.5	88.6	87.5	87.4	89.6	99.4	98.0	97.7	98.6	135.1
63	92.2	93.0	89.2	96.8	95.6	96.7	96.9	94.3	97.0	107.0	105.7	104.1	105.3	142.5
80	89.2	93.2	89.5	90.8	91.6	93.0	95.1	92.5	94.2	94.3	96.2	98.4	100.8	136.2
100	90.5	96.3	91.5	94.1	94.9	94.5	95.9	97.8	95.5	98.1	99.7	103.7	106.1	139.9
125	86.2	89.4	92.0	93.7	95.3	95.7	95.6	96.5	96.0	99.3	104.7	107.8	109.3	142.2
160	86.7	85.2	90.5	90.8	91.1	91.2	99.6	94.0	95.0	101.0	105.7	108.9	111.8	143.5
200	88.3	88.1	89.4	91.9	93.8	94.6	95.5	96.9	100.1	102.9	107.6	111.8	114.4	145.9
250	87.8	92.1	92.1	92.9	92.7	94.3	97.2	99.1	100.8	107.1	113.3	115.7	116.1	149.2
315	88.6	91.4	90.9	93.4	95.3	96.4	99.8	99.0	103.2	110.2	115.1	117.8	117.7	151.2
400	89.0	92.3	93.0	93.7	95.4	95.5	106.9	100.1	104.0	112.6	117.2	119.4	117.3	152.7
500	90.5	92.8	93.6	95.0	95.9	96.8	98.9	100.8	106.1	114.4	119.8	120.2	118.1	154.1
630	91.4	94.0	95.7	96.1	96.9	98.2	99.9	102.0	107.2	116.5	120.9	120.6	118.8	155.1
800	94.7	95.5	97.0	96.7	98.4	98.7	101.1	104.3	109.3	116.8	122.2	121.1	118.5	155.9
1000	100.4	100.5	100.7	100.6	100.1	100.0	102.1	104.8	110.2	116.3	122.4	121.9	118.8	156.3
1250	102.0	105.3	104.8	104.7	104.0	103.6	104.2	106.4	111.3	116.4	122.8	121.7	118.2	156.5
1600	105.0	103.7	103.6	102.6	103.5	103.3	104.9	107.2	112.9	115.4	123.3	120.0	116.2	156.3
2000	106.0	105.2	105.6	105.0	103.6	102.9	104.9	107.7	112.6	115.9	122.4	117.7	113.2	155.4
2500	104.0	105.0	106.3	106.4	107.0	105.1	105.3	109.4	113.0	117.3	121.0	116.4	111.4	155.0
3150	102.6	103.7	104.7	104.7	106.1	106.6	107.3	108.7	112.5	117.4	119.6	114.3	110.1	154.3
4000	100.5	101.5	104.1	103.7	105.2	105.7	107.5	109.4	113.0	117.2	117.2	113.0	108.5	153.4
5000	99.5	101.5	102.6	103.1	104.3	104.6	106.7	109.5	113.0	116.1	116.9	112.2	107.5	153.0
6300	97.5	99.5	101.6	102.6	104.3	104.5	106.5	110.2	112.2	114.8	114.9	110.9	106.4	152.1
8000	95.3	98.9	99.9	101.4	102.8	104.2	105.1	108.4	110.9	112.7	113.5	108.7	104.6	150.9
10000	94.0	97.4	99.0	100.5	102.2	103.7	105.2	107.7	110.1	112.4	112.4	108.1	103.2	150.7
12500	91.8	94.7	97.8	99.5	100.1	102.1	103.6	106.3	108.4	109.5	110.8	106.4	101.9	149.7
16000	88.8	93.4	94.8	97.4	98.6	100.1	101.9	104.2	106.2	107.7	108.8	103.6	99.2	149.0
20000	86.4	90.0	92.6	94.9	96.5	98.1	99.6	101.0	104.0	105.0	106.5	102.0	97.9	148.4
25000	83.3	87.9	90.2	92.8	94.7	96.3	98.2	100.2	103.7	104.2	107.8	99.8	94.6	150.4
31500	76.7	82.3	83.8	88.0	89.4	91.2	92.2	95.3	99.1	100.5	104.4	95.1	87.9	149.3
40000	73.1	79.5	81.5	84.7	86.0	88.2	89.7	93.3	98.1	100.5	102.9	93.0	85.4	152.1
50000	70.1	76.3	78.2	81.1	83.2	85.3	86.2	90.7	97.1	100.4	101.0	92.4	81.9	155.2
63000	67.0	74.8	74.3	76.6	80.0	81.7	82.3	89.4	96.0	100.6	101.1	89.6	78.6	160.2
80000	64.1	75.4	72.7	73.9	76.7	78.6	78.7	87.2	95.1	101.5	101.2	87.8	72.6	167.2

ORIGINAL PAGE 1  
OF FOUR QUARTS

CASPL 112.8 113.7 114.6 114.8 115.6 115.8 117.7 119.8 123.5 127.9 132.3 130.7 128.3 170.7  
PNI 125.5 126.7 127.8 128.1 128.9 129.2 130.7 132.6 136.3 140.7 144.0 141.0 137.8  
PNLI 125.5 127.8 127.8 129.1 128.9 129.2 132.0 133.2 136.3 140.7 144.0 141.0 137.8  
DBA 113.4 114.1 114.9 114.8 115.5 115.4 117.0 119.5 123.4 127.7 132.2 129.9 126.7

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH248	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1702.8 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2460.5 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0221	TAPE = X0221C	TEST PT NO = 0221	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0221 X0221F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	85.3	84.6	83.1	88.6	87.5	88.6	87.5	87.4	89.6	99.4	98.0	97.7	98.6	135.1
63	92.2	93.0	89.2	96.8	95.6	96.7	96.9	94.3	97.0	107.0	105.7	104.1	105.3	142.5
80	89.2	93.2	89.5	90.8	91.6	93.0	95.1	92.5	94.2	94.3	96.2	98.4	100.8	136.2
100	90.5	96.3	91.5	94.1	94.9	94.5	95.9	97.8	95.5	98.1	99.7	103.7	106.1	139.9
125	86.2	89.4	92.0	93.7	95.3	95.7	95.6	96.5	96.0	99.3	104.7	107.8	109.3	142.2
160	86.7	85.2	90.5	90.8	91.1	91.2	99.6	94.0	95.0	101.0	105.7	108.9	111.8	143.5
200	88.3	88.1	89.4	91.9	93.8	94.6	96.5	96.9	100.1	102.9	107.6	111.8	114.4	145.9
250	87.8	92.1	92.1	92.9	92.7	94.3	97.2	99.1	100.8	107.1	113.3	113.7	116.1	149.2
315	88.6	91.4	90.9	93.4	95.3	96.4	99.8	99.0	103.2	110.2	115.1	117.8	117.7	151.2
400	89.0	92.3	93.0	93.7	95.4	95.5	106.9	100.1	104.0	112.6	117.2	119.4	117.3	152.7
500	90.5	92.8	93.6	95.0	95.9	96.8	98.9	100.8	106.1	114.4	119.8	120.2	118.1	154.1
630	91.4	94.0	95.7	96.1	96.9	98.2	99.9	102.0	107.2	116.5	120.9	120.6	118.8	155.1
800	94.7	95.5	97.0	96.7	98.4	98.7	101.1	104.3	109.3	116.8	122.2	121.1	118.5	155.9
1000	100.4	100.5	100.7	100.6	100.1	100.0	102.1	104.8	110.2	116.3	122.4	121.9	118.8	156.3
1250	102.0	105.3	104.8	104.7	104.0	103.6	104.2	106.4	111.3	116.4	122.8	121.7	118.2	156.5
1600	105.0	103.7	103.6	102.6	103.5	103.3	104.9	107.2	112.9	115.4	123.3	120.0	116.2	156.3
2000	106.0	105.2	105.6	105.0	103.6	102.9	104.9	107.7	112.6	115.9	122.4	117.7	113.2	155.4
2500	104.0	105.0	106.3	106.4	107.0	105.1	105.3	109.4	113.0	117.3	121.0	116.4	111.4	155.0
3150	102.6	103.7	104.7	104.7	106.1	106.6	107.3	108.7	112.5	117.4	119.6	114.8	110.1	154.3
4000	100.5	101.5	104.1	103.7	105.2	105.7	107.5	109.4	113.0	117.2	117.2	113.0	108.5	153.4
5000	99.5	101.5	102.6	103.1	104.3	104.6	106.7	109.5	113.0	116.1	116.9	112.2	107.5	153.0
6300	97.5	99.5	101.6	102.6	104.3	104.5	106.5	110.2	112.2	114.8	114.9	110.9	106.4	152.1
8000	95.3	98.9	99.9	101.4	102.8	104.2	105.1	108.4	110.9	112.7	113.5	108.7	104.6	150.9
10000	94.0	97.4	99.0	100.5	102.2	103.7	105.2	107.7	110.1	112.4	112.4	108.1	103.2	150.7
12500	91.8	94.7	97.8	99.5	100.1	102.1	103.6	106.3	108.4	109.5	110.8	106.4	101.9	149.7
16000	88.8	93.4	94.8	97.4	98.6	100.1	101.9	104.2	106.2	107.7	108.8	103.6	99.2	149.0
20000	86.4	90.0	92.6	94.9	96.5	98.1	99.6	101.0	104.0	105.0	106.5	102.0	97.9	148.4
25000	83.3	87.9	90.2	92.8	94.7	96.3	98.2	100.2	103.7	104.2	107.8	99.8	94.6	150.4
31500	76.7	82.3	83.8	88.0	89.4	91.2	92.2	95.3	99.1	100.5	104.4	95.1	87.9	149.3
40000	73.1	79.5	81.5	84.7	86.0	88.2	89.7	93.3	98.1	100.5	102.9	93.0	85.4	152.1
50000	70.1	76.3	78.2	81.1	83.2	85.3	86.2	90.7	97.1	100.4	101.0	92.4	81.9	155.2
63000	67.0	74.8	74.3	76.6	80.0	81.7	82.3	89.4	96.0	100.6	101.1	89.6	78.6	160.2
80000	64.1	75.4	72.7	73.9	76.7	78.6	78.7	87.2	95.1	101.5	101.2	87.8	72.6	167.2
GASPL	112.8	113.7	114.6	114.8	115.6	115.8	117.7	119.8	123.5	127.9	132.3	130.7	128.3	170.7
PNL	125.5	126.7	127.8	128.1	128.9	129.2	130.7	132.6	136.3	140.7	144.0	141.0	137.8	
PNLT	125.5	127.8	127.8	129.1	128.9	129.2	132.0	133.2	136.3	140.7	144.0	141.0	137.8	
DBA	185.1	195.8	193.4	194.9	197.7	199.6	199.9	208.0	215.7	221.9	221.7	208.5	194.4	

 ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH248	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1702.8 FPS	AE8 = 4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2460.5 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0221 TAPE = X0221F TEST PT NO = 0221 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0221 X02211

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	67.6	72.4	74.2	75.6	77.7	78.0	89.2	82.0	85.2	92.7	95.8	95.8	90.4	170.8
63	69.1	72.9	74.7	76.9	78.2	79.2	81.2	82.7	87.2	94.5	98.3	96.5	91.1	172.1
80	69.9	74.0	76.9	78.0	79.1	80.6	82.1	83.9	88.4	96.6	99.4	96.9	91.7	173.2
100	73.1	75.5	78.1	78.6	80.6	81.1	83.4	86.1	90.3	96.8	100.6	97.3	91.3	173.9
125	78.8	80.4	81.7	82.4	82.3	82.3	84.3	86.5	91.2	96.2	100.8	97.9	91.3	174.3
160	80.1	85.0	85.7	86.3	86.0	85.7	86.2	88.0	92.2	96.1	100.9	97.5	90.4	174.6
200	82.9	83.2	84.3	84.0	85.4	85.4	86.8	88.7	93.5	95.0	101.2	95.4	87.9	174.3
250	83.6	84.4	86.0	86.2	85.2	84.7	86.6	88.9	93.0	95.1	99.9	92.7	84.2	173.4
315	81.1	83.9	86.5	87.3	88.4	86.6	86.7	90.3	93.1	96.2	98.2	90.8	81.6	173.1
400	79.3	82.2	84.5	85.4	87.2	87.9	88.4	89.4	92.3	95.9	96.3	88.1	79.3	172.3
500	76.7	79.6	83.5	84.0	86.0	86.6	88.4	89.7	92.4	95.3	93.3	86.2	76.7	171.4
630	75.2	79.3	81.8	83.1	84.9	85.3	87.2	89.6	92.1	93.8	92.6	84.7	74.7	171.0
800	72.6	76.9	80.4	82.4	84.6	85.0	86.8	90.0	92.1	90.0	82.7	72.4	170.1	
1000	70.0	75.9	78.5	81.0	83.0	84.5	85.3	88.0	89.5	89.7	88.2	79.9	69.5	168.9
1250	68.2	74.2	77.3	79.9	82.3	84.0	85.3	87.1	88.4	89.1	86.6	78.4	66.6	168.8
1600	65.2	70.8	75.7	78.6	79.8	82.0	83.4	85.4	86.3	85.6	84.1	75.3	63.0	167.7
2000	61.2	68.9	72.4	76.2	78.1	79.9	81.4	83.1	83.8	83.3	81.1	71.0	57.2	167.0
2500	57.0	64.3	69.3	73.1	75.6	77.4	78.7	79.2	80.7	79.3	77.1	66.5	51.1	166.4
3150	50.5	59.7	65.0	69.4	72.4	74.3	75.9	76.9	78.5	76.1	75.1	59.4	39.4	168.4
4000	37.7	49.4	54.8	61.4	64.0	66.3	66.9	68.6	70.1	67.6	65.4	45.7	18.2	167.4
5000	24.4	39.1	46.3	52.6	55.7	58.4	59.4	61.3	62.8	60.1	54.1	29.9		170.1
6300	3.6	21.7	30.9	38.2	42.8	45.6	45.8	47.9	49.8	45.7	34.5	5.2		173.2
8000			5.6	14.5	21.5	24.3	23.8	27.3	27.3	21.1	3.9			178.2
10000														185.2
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	89.9	92.4	94.4	95.3	96.4	96.7	98.4	100.1	103.2	106.7	109.8	105.9	99.5	188.6
PNL	93.9	97.0	99.8	101.4	102.8	103.6	105.1	106.9	109.1	111.5	112.9	106.7		98.7
PNLT	93.9	97.5	100.3	101.9	102.8	103.6	105.1	106.9	109.6	112.1	113.5	106.7		99.7
DBA	82.9	86.2	89.1	90.6	92.4	93.2	94.6	96.7	98.7	100.3	100.5	93.7		85.2

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH248 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1702.8 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2460.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0221 TAPE = X02211 TEST PT NO = 0221 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0222 X0222C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.0	86.3	83.6	82.9	81.5	80.6	85.2	86.9	87.1	93.9	95.3	91.5	99.6	132.2
63	90.2	90.2	88.2	87.8	89.4	87.2	91.4	91.3	91.0	103.0	98.4	92.4	99.0	136.9
80	89.9	94.0	90.5	91.3	91.1	92.5	92.9	92.5	93.0	92.6	95.2	97.1	101.3	135.7
100	89.0	94.0	90.0	91.8	92.9	92.5	94.7	95.1	93.3	93.8	96.7	100.9	104.6	137.6
125	86.4	88.2	90.5	91.9	93.1	92.7	94.1	94.7	93.2	95.3	101.9	105.6	108.3	140.2
160	85.4	82.2	88.5	88.1	88.1	88.2	94.4	90.0	91.2	96.3	103.2	106.4	110.0	141.0
200	86.6	85.6	85.9	86.9	88.0	89.1	93.5	93.4	96.1	96.9	103.1	108.5	111.9	142.6
250	84.0	86.6	87.3	88.4	88.0	89.6	93.5	95.1	96.3	101.4	108.5	112.0	113.1	145.3
315	84.9	86.4	86.9	88.6	89.8	91.4	95.8	95.0	98.9	105.7	111.1	114.3	114.2	147.5
400	85.5	87.5	88.0	89.2	90.4	91.0	101.9	95.3	100.0	107.8	114.0	115.9	113.1	149.0
500	86.5	88.0	89.6	90.8	91.4	92.3	95.7	96.8	101.1	110.1	116.0	116.2	111.1	149.8
630	86.7	89.0	91.0	91.6	92.6	93.7	95.6	98.3	103.0	112.0	117.4	116.4	108.8	150.7
800	88.9	89.7	91.5	92.7	93.6	94.2	97.6	100.3	105.2	112.8	118.2	114.9	105.3	151.0
1000	93.9	93.0	93.7	94.1	94.9	95.7	98.4	101.0	106.2	112.6	117.9	113.9	104.0	150.7
1250	97.5	99.3	97.6	97.7	96.9	98.1	99.7	102.6	107.6	112.4	117.8	111.7	103.0	150.5
1600	102.8	102.4	101.8	100.1	99.0	99.3	101.4	104.0	109.1	112.4	118.0	111.5	103.5	151.0
2000	102.3	102.4	103.8	104.2	101.8	99.4	101.4	105.0	108.3	111.9	117.1	110.5	103.5	150.5
2500	99.2	100.8	103.1	104.4	105.4	103.8	102.2	106.1	110.2	114.3	116.8	110.3	102.6	151.3
3150	98.4	98.9	99.9	101.0	102.5	104.4	105.7	106.7	110.0	114.4	117.1	110.3	102.8	151.4
4000	96.8	97.7	99.3	100.2	100.4	102.1	105.0	107.6	110.5	114.9	115.4	108.5	102.0	150.9
5000	95.5	96.8	98.4	99.5	100.3	100.8	103.9	107.7	110.7	113.6	114.2	106.7	101.0	150.1
6300	94.4	95.5	96.8	98.8	100.0	101.0	103.5	107.4	110.4	112.3	112.8	105.9	99.9	149.5
8000	92.5	94.6	95.7	97.4	98.3	100.6	102.8	106.7	109.9	110.7	110.5	103.5	97.6	148.5
10000	90.8	94.2	94.7	96.7	97.7	100.0	102.5	105.9	109.0	110.1	109.6	103.1	97.1	148.3
12500	89.6	91.7	94.0	96.2	96.1	98.3	100.6	104.3	106.8	107.7	107.3	101.1	95.1	147.0
16000	86.3	89.9	91.6	93.9	95.6	96.3	98.9	102.2	105.2	105.0	105.0	98.9	92.7	146.3
20000	84.2	86.7	88.9	91.7	92.5	94.1	97.1	99.5	102.5	102.0	102.5	95.5	91.4	145.4
25000	81.2	85.1	86.6	89.3	90.5	92.3	95.2	96.7	100.9	101.7	99.4	94.1	88.3	146.0
31500	74.7	79.0	81.0	84.8	85.1	87.0	89.2	92.0	96.0	97.2	94.8	88.3	81.9	144.3
40000	71.0	75.4	77.4	80.1	81.7	83.3	85.4	88.7	93.5	95.6	92.5	85.1	78.0	145.8
50000	66.9	71.3	72.6	75.5	77.2	79.2	81.4	84.7	91.3	93.5	90.6	80.4	73.1	147.7
63000	63.2	68.8	68.1	70.2	71.9	73.8	75.8	81.2	88.8	94.1	89.6	77.3	67.3	152.1
80000	59.8	69.6	66.4	63.5	65.8	68.4	71.3	75.2	84.8	93.8	87.5	71.7	58.7	157.5

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OSASPL 109.2 110.0 110.8 111.6 111.9 112.4 114.7 117.3 120.8 124.6 128.2 125.1 121.7 164.4  
PNL 121.9 122.7 124.1 125.2 125.8 126.1 128.2 130.3 133.5 137.7 140.6 135.7 130.2  
PNLT 121.9 122.7 124.1 125.2 126.9 126.1 129.2 130.3 133.5 137.7 140.6 135.7 130.2  
DBA 109.6 110.2 111.2 111.8 112.0 112.3 114.1 116.9 120.5 124.5 128.1 123.4 117.1

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH264	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.45	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINI =	LBS XNL =	RPM XNH =	RPM V8 = 1711.3 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2463.4 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-400-0222	TAPE = X0222C	TEST PT NO = 0222	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0222 X0222F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
83														
80														
100														
125														
160														
200														
250	90.7	92.2	91.7	91.3	89.4	89.6	91.6	91.5	95.5	101.4	106.2	109.9	111.6	143.6
315	90.7	92.2	91.7	91.3	91.6	91.6	94.5	92.2	96.8	103.8	109.5	112.2	111.9	145.5
400	92.6	92.6	91.9	92.0	92.2	91.3	100.6	92.6	99.0	107.3	112.9	114.3	112.5	147.9
500	92.9	93.8	92.9	92.6	93.3	92.6	94.9	95.0	101.7	110.4	116.0	116.8	113.7	150.3
630	94.2	94.4	94.5	94.3	94.6	94.1	95.0	96.7	104.1	111.5	117.4	116.8	113.3	151.1
800	94.3	95.4	96.0	95.1	95.7	94.8	96.9	98.5	105.7	112.0	118.1	117.4	114.7	151.8
1000	96.6	96.2	96.6	96.3	96.6	96.4	97.9	99.5	106.9	111.6	117.8	115.1	113.7	151.1
1250	99.1	97.5	97.4	96.8	98.7	98.9	99.2	101.0	108.7	112.0	118.4	115.2	114.6	151.7
1600	103.5	104.2	101.4	100.4	100.9	100.4	101.2	102.7	108.4	111.9	118.0	114.7	115.0	151.8
2000	109.7	108.1	106.2	103.2	103.9	100.7	101.5	104.0	110.4	114.3	117.6	114.7	114.4	152.6
2500	108.0	107.2	107.7	107.2	108.4	105.4	102.6	105.3	110.7	114.9	118.5	115.2	115.2	153.6
3150	106.9	107.4	108.5	108.6	105.8	106.4	106.5	106.3	111.6	115.8	116.9	113.4	114.4	153.3
4000	105.9	105.6	105.5	105.4	104.1	104.7	106.3	107.7	111.9	114.4	113.7	111.7	113.4	152.2
5000	104.3	104.4	105.1	104.8	104.4	103.8	105.5	108.0	111.6	113.2	114.4	110.9	112.4	151.6
6300	103.0	103.5	104.2	104.4	104.0	104.0	105.0	107.6	111.1	111.5	111.9	108.3	109.9	150.4
8000	101.7	102.0	102.5	103.5	102.4	103.6	104.3	106.8	110.5	111.2	111.3	108.2	109.7	150.2
10000	99.7	101.0	101.2	101.9	102.3	103.0	104.0	106.1	108.7	109.2	109.4	106.6	108.2	149.2
12500	100.4	102.6	101.6	102.1	100.1	101.3	102.3	104.6	107.6	107.1	107.7	105.0	106.3	148.8
16000	95.9	97.3	98.7	99.9	100.2	99.3	100.6	102.6	105.8	105.1	106.2	102.7	106.0	148.2
20000	95.0	97.4	97.6	98.3	97.1	97.1	99.2	100.3	104.3	104.8	103.1	101.2	103.0	148.3
25000	92.3	93.6	94.3	95.5	95.1	95.3	97.1	97.1	99.8	100.5	98.4	95.0	95.7	146.8
31500	88.6	91.2	91.3	92.3	89.7	90.0	90.6	92.0	98.0	99.7	96.9	92.5	92.4	147.2
40000	81.2	84.2	84.8	87.0	86.3	86.3	86.8	88.7	96.2	98.0	95.4	88.2	87.9	148.5
50000	77.1	80.3	80.8	81.9	81.6	82.2	82.9	84.7	94.7	99.5	95.4	86.1	83.0	152.5
63000	72.0	75.2	75.1	76.4	76.5	76.8	77.2	81.2	92.2	100.7	94.7	81.9	75.9	157.7
80000	66.8	71.3	69.1	69.6	69.6	71.4	72.7	75.2	82.4	90.9	84.9	72.1	66.1	154.9
0ASPL	115.6	115.7	115.6	115.4	114.9	114.4	115.3	117.0	121.5	124.7	128.3	126.4	125.7	165.6
PNL	128.3	128.4	128.9	128.7	128.0	127.3	129.0	129.3	133.9	137.6	140.2	137.6	137.6	
PNLT	129.6	128.4	128.9	128.7	129.2	127.3	128.9	129.3	133.9	137.6	140.2	137.6	137.6	
DBA	188.6	192.6	191.1	192.0	192.0	193.2	194.2	197.0	205.7	213.9	208.1	195.6	190.3	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH264	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.45	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT EXT CONFIG = ARC	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1711.3 FPS	AE8 = 4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2463.4 FPS	AE18 = 18.0 SQ IN

RUNP1 = 82F-400-0222 TAPE = X0222F TEST PT NO = 0222 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0222 X02221

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.1	72.9	73.1	73.9	74.5	73.7	82.9	74.5	80.2	87.4	91.5	90.7	85.5	165.9
63	71.5	73.9	74.1	74.5	75.6	75.1	77.2	76.8	82.9	90.5	94.5	93.1	86.7	168.4
80	72.7	74.5	75.7	76.1	76.8	76.5	77.2	78.5	85.3	91.6	95.9	93.1	86.2	169.1
100	72.8	75.4	77.1	76.9	77.9	77.1	79.1	80.3	86.8	92.0	96.5	93.5	87.5	169.9
125	74.9	76.1	77.6	78.1	78.7	78.7	80.0	81.2	87.9	91.5	96.1	91.2	86.3	169.2
160	77.2	77.2	78.3	78.4	80.7	81.0	81.3	82.6	89.6	91.7	96.5	91.0	86.7	169.8
200	81.4	83.8	82.1	81.9	82.8	82.4	83.1	84.1	89.1	91.5	95.8	90.2	86.7	169.8
250	87.2	87.4	86.7	84.4	85.6	82.5	83.2	85.3	90.8	93.5	95.1	89.7	85.4	170.7
315	85.1	86.1	87.8	88.1	89.8	87.0	84.0	86.2	90.8	93.8	95.6	89.7	85.4	171.6
400	83.5	85.9	88.3	89.2	86.9	87.6	87.6	87.0	91.4	94.3	93.6	87.2	83.6	171.3
500	82.1	83.7	85.0	85.7	85.0	85.7	87.1	88.0	91.3	92.6	91.8	84.6	81.6	170.3
630	80.0	82.1	84.2	84.9	84.9	84.5	86.0	88.0	90.8	91.0	90.1	83.4	79.5	169.6
800	76.1	80.8	83.0	84.2	84.3	84.4	85.3	87.4	89.9	88.9	87.1	80.1	76.0	168.5
1000	76.5	79.1	81.1	83.1	82.5	84.0	84.5	86.4	89.1	88.3	86.1	79.3	74.6	168.2
1250	73.9	77.7	79.6	81.3	82.4	83.2	84.0	85.5	87.0	86.0	83.6	77.0	71.6	167.3
1600	73.8	78.7	79.6	81.2	79.9	81.3	82.0	83.6	85.6	83.2	81.0	73.9	67.4	166.8
2000	68.3	72.8	76.3	78.8	79.7	79.1	80.2	81.4	83.4	80.6	78.6	70.0	64.1	166.3
2500	65.6	71.7	74.3	76.5	76.2	76.4	78.2	78.5	81.0	79.1	73.7	65.7	56.1	166.3
3150	59.5	65.5	69.1	72.2	72.7	73.3	74.7	73.8	74.6	72.4	65.6	54.6	40.5	164.8
4000	49.6	58.3	62.3	65.7	64.4	65.1	65.3	65.4	69.0	66.8	57.9	43.1	22.7	165.2
5000	32.4	43.8	49.6	54.9	56.0	56.5	56.5	56.6	61.0	57.6	46.6	25.1		166.6
6300	10.6	25.6	33.5	39.1	41.4	42.6	42.4	41.8	47.4	44.9	28.8			170.5
8000			6.4	14.3	18.0	19.4	18.6	19.1	23.6	21.2				175.8
10000														173.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
DASPL	92.5	94.1	95.2	95.7	95.9	95.4	96.0	97.1	101.1	103.4	105.8	101.6	96.4	183.6
PNL	97.8	99.9	101.9	102.9	102.9	102.5	103.3	104.3	107.5	109.0	109.3	103.4	98.5	
PNLT	98.5	101.1	102.5	102.9	103.5	103.1	103.8	104.3	108.1	109.6	109.3	103.4	98.5	
DBA	87.4	89.7	91.4	92.5	92.4	92.6	93.3	94.7	97.5	97.8	97.4	91.1	87.0	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH264	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.45	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1711.3 FPS	AE8 =	4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2463.4 FPS	AE18 =	18.0 SQ IN

RUNPT = 82F-400-0222 TAPE = X02221 TEST PT NO = 0222 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0223 X0223C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.0	84.1	82.6	88.6	88.7	87.1	87.7	88.1	89.3	99.4	97.8	97.2	97.4	134.8
63	92.2	92.2	89.2	95.3	97.4	96.0	95.9	94.8	96.0	107.3	105.2	103.9	104.0	142.4
80	89.9	94.2	90.0	91.5	91.9	93.2	95.1	93.3	93.5	94.6	96.2	98.6	101.0	136.5
100	90.5	96.8	92.3	94.8	95.7	94.8	96.4	97.6	95.3	97.8	100.0	103.9	106.6	140.2
125	86.4	89.4	91.7	93.7	95.3	95.2	96.1	96.5	96.2	99.3	104.7	108.6	109.8	142.6
150	87.9	86.2	90.7	91.8	92.1	92.0	99.1	94.3	95.5	101.3	106.7	109.9	113.0	144.4
200	89.1	88.6	89.6	92.4	93.5	94.9	97.0	96.9	100.4	103.2	107.3	112.3	114.7	146.1
250	88.5	92.3	92.3	93.4	93.5	94.1	97.2	99.6	100.8	106.9	113.5	116.5	116.9	149.8
315	88.6	91.9	91.4	93.9	95.8	96.7	100.3	99.7	103.4	110.0	115.1	118.1	118.2	151.4
400	89.2	92.5	93.3	94.0	95.4	95.0	107.2	99.8	104.8	112.3	117.5	119.7	118.1	153.0
500	91.2	92.8	94.1	95.5	95.7	96.8	99.4	100.8	106.1	114.6	120.0	120.2	118.6	154.3
630	91.4	93.7	95.7	96.1	97.1	98.2	99.4	102.3	107.0	116.3	120.9	121.6	119.0	155.4
800	95.4	95.5	97.0	97.5	98.9	99.0	100.9	104.0	109.3	116.8	122.0	121.4	119.0	155.9
1000	100.2	101.0	101.0	100.4	100.4	100.2	102.4	105.0	110.7	116.3	122.2	122.4	119.5	156.4
1250	102.8	105.3	104.6	104.5	104.2	103.6	104.7	106.9	111.6	116.4	122.5	122.2	119.5	156.7
1600	106.5	104.9	104.6	103.6	103.7	103.1	104.9	107.5	112.1	115.7	122.8	120.2	117.2	156.1
2000	107.8	105.7	106.6	105.8	104.3	103.2	105.2	108.0	112.6	116.1	122.1	118.2	114.0	155.5
2500	104.8	106.3	107.1	107.4	107.7	105.1	105.5	109.1	113.7	117.8	121.3	116.6	112.4	155.4
3150	102.9	103.9	105.2	105.7	107.1	107.9	108.3	109.2	112.8	117.6	120.1	115.1	110.6	154.8
4000	100.5	102.0	104.3	104.2	105.4	106.2	108.0	109.9	113.5	116.9	117.4	113.5	108.5	153.6
5000	100.0	101.5	103.1	103.6	104.6	105.6	107.7	110.3	113.0	116.3	117.2	112.2	107.7	153.3
6300	97.7	100.5	102.3	102.8	104.8	104.5	106.8	109.7	111.9	114.5	115.9	110.6	106.4	152.2
8000	95.8	99.1	100.9	101.9	103.3	104.2	105.3	108.7	111.6	113.2	113.7	108.2	104.6	151.2
10000	94.0	97.9	100.0	101.0	102.0	104.0	105.2	107.7	110.3	112.6	112.6	107.9	103.7	150.9
12500	92.3	94.9	98.5	99.5	100.6	102.6	103.6	106.3	108.6	109.7	110.8	105.4	102.6	149.8
16000	89.3	93.9	95.6	97.9	99.1	100.1	102.4	104.7	106.7	107.7	109.0	103.4	99.7	149.3
20000	86.7	90.7	93.6	95.4	96.8	98.3	100.1	101.7	104.3	105.3	106.5	101.8	98.2	148.6
25000	84.0	88.1	90.9	92.8	95.5	96.8	98.7	100.2	106.8	105.2	99.2	99.8	94.3	150.2
31500	77.2	83.0	85.3	88.8	89.4	91.5	93.2	95.5	102.0	101.7	95.6	95.5	88.4	148.9
40000	73.6	79.8	82.5	85.2	87.3	88.7	91.0	93.6	101.1	100.5	95.7	94.2	85.9	151.6
50000	70.1	76.8	78.7	81.1	83.2	86.0	87.2	91.0	98.8	101.6	94.0	92.6	83.1	155.0
63000	66.7	75.8	75.3	77.6	80.2	82.7	83.8	89.4	97.4	102.6	94.4	91.6	78.9	160.3
80000	64.6	75.9	73.2	74.2	77.7	80.3	80.5	86.5	96.9	102.8	88.9	87.7	74.6	166.6
CASPL	113.7	114.3	115.1	115.4	116.1	116.3	118.1	120.0	123.8	128.0	132.2	131.1	129.0	170.5
PNL	126.6	127.5	128.4	128.8	129.5	129.9	131.2	133.0	136.6	140.9	144.1	141.3	138.5	
PNLT	126.6	128.3	128.4	128.8	129.5	129.9	132.5	133.0	136.6	140.9	144.1	141.3	138.5	
DBA	114.4	114.7	115.5	115.5	116.0	116.0	117.4	119.7	123.6	127.8	132.1	130.3	127.4	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH249	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 = LBS	XNL =	RPM	XNH =	RPM	V8 = 1685.0 FPS
FNIRMB = LBS	XNLR =	RPM	XNHR =	RPM	V18 = 2475.3 FPS
					AE8 = 4.0 SQ IN
					AE18 = 18.0 SQ IN
RUNPT = 82F-ZER-0223	TAPE = X0223C	TEST PT NO = 0223	NC = AE060	CORR FAN SPEED =	RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0223 X0223F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.0	84.1	82.6	88.6	88.7	87.1	87.7	88.1	89.3	99.4	97.8	97.2	97.4	134.8
63	92.2	92.2	89.2	96.3	97.4	96.0	96.9	94.8	96.0	107.3	105.2	103.9	104.0	142.4
80	89.9	94.2	90.0	91.5	91.9	93.2	95.1	93.3	93.5	94.6	96.2	98.6	101.0	136.5
100	90.5	96.8	92.3	94.8	95.7	94.8	96.4	97.6	95.3	97.8	100.0	103.9	106.6	140.2
125	86.4	89.4	91.7	93.7	95.3	95.2	96.1	96.5	96.2	99.3	104.7	108.6	109.8	142.6
160	87.9	86.2	90.7	91.8	92.1	92.0	99.1	94.3	95.5	101.3	106.7	109.9	113.0	144.4
200	89.1	88.6	89.6	92.4	93.5	94.9	97.0	96.9	100.4	103.2	107.3	112.3	114.7	146.1
250	88.5	92.3	92.3	93.4	93.5	94.1	97.2	99.6	100.8	106.9	113.5	116.5	116.9	149.8
315	88.6	91.9	91.4	93.9	95.8	96.7	100.3	99.7	103.4	110.0	115.1	118.1	118.2	151.4
400	89.2	92.5	93.3	94.0	95.4	95.0	107.2	99.8	104.8	112.3	117.5	119.7	118.1	153.0
500	91.2	92.8	94.1	95.5	95.7	96.8	99.4	100.8	106.1	114.6	120.0	120.2	118.6	154.3
630	91.4	93.7	95.7	96.1	97.1	98.2	99.4	102.3	107.0	116.3	120.9	121.6	119.0	155.4
800	95.4	95.5	97.0	97.5	98.9	99.0	100.9	104.0	109.3	116.8	122.0	121.4	119.0	155.9
1000	100.2	101.0	101.0	100.4	100.4	100.2	102.4	105.0	110.7	116.3	122.2	122.4	119.5	156.4
1250	102.8	105.3	104.6	104.5	104.2	103.6	104.7	106.9	111.6	116.4	122.5	122.2	119.5	156.7
1600	106.5	104.9	104.6	103.6	103.7	103.1	104.9	107.5	112.1	115.7	122.8	120.2	117.2	156.1
2000	107.8	105.7	106.6	105.8	104.3	103.2	105.2	108.0	112.6	116.1	122.1	118.2	114.0	155.5
2500	104.8	106.3	107.1	107.4	107.7	106.1	105.5	109.1	113.7	117.8	121.3	116.6	112.4	155.4
3150	102.9	103.9	105.2	105.7	107.1	107.9	108.3	109.2	112.8	117.6	120.1	115.1	110.6	154.8
4000	100.5	102.0	104.3	104.2	105.4	106.2	108.0	109.9	113.5	116.9	117.4	113.5	108.5	153.6
5000	100.0	101.5	103.1	103.6	104.6	105.6	107.7	110.3	113.0	116.3	117.2	112.2	107.7	153.3
6300	97.7	100.5	102.3	102.8	104.8	104.5	106.8	109.7	111.9	114.5	115.9	110.6	106.4	152.2
8000	95.8	99.1	100.9	101.9	103.3	104.2	105.3	108.7	111.6	113.2	113.7	108.2	104.6	151.2
10000	94.0	97.9	100.0	101.0	102.0	104.0	105.2	107.7	110.3	112.6	112.6	107.9	103.7	150.9
12500	92.3	94.9	98.5	99.5	100.6	102.6	103.6	106.3	108.6	109.7	110.8	105.4	102.6	149.8
16000	89.3	93.9	95.6	97.9	99.1	100.1	102.4	104.7	106.7	107.7	109.0	103.4	99.7	149.3
20000	86.7	90.7	93.6	95.4	96.8	98.3	100.1	101.7	104.3	105.3	106.5	101.8	98.2	148.6
25000	84.0	88.1	90.9	92.8	95.5	96.8	98.7	100.2	106.8	105.2	99.2	99.8	94.3	150.2
31500	77.2	83.0	85.3	88.8	89.4	91.5	93.2	95.5	102.0	101.7	95.6	95.5	88.4	148.9
40000	73.6	79.8	82.5	85.2	87.3	88.7	91.0	93.6	101.1	100.5	95.7	94.2	85.9	151.6
50000	70.1	76.8	78.7	81.1	83.2	86.0	87.2	91.0	98.8	101.6	94.0	92.6	83.1	155.0
63000	66.7	75.8	75.3	77.6	80.2	82.7	83.8	89.4	97.4	102.6	94.4	91.6	78.9	160.3
80000	64.6	75.9	73.2	74.2	77.7	80.3	80.5	86.5	96.9	102.8	88.9	87.7	74.6	166.6
GASPL	113.7	114.3	115.1	115.4	116.1	116.3	118.1	120.0	123.8	128.0	132.2	131.1	129.0	170.5
PNL	126.6	127.5	128.4	128.8	129.5	129.9	131.2	133.0	136.6	140.9	144.1	141.3	138.5	
PNLT	126.6	128.3	128.4	128.8	129.5	129.9	132.5	133.0	136.6	140.9	144.1	141.3	138.5	
DBA	185.5	196.4	194.0	195.3	198.6	201.2	201.5	207.4	217.5	223.2	210.4	208.8	195.9	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CGAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH249 TEST DATE = 06-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1685.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2475.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0223 TAPE = X0223F TEST PT NO = 0223 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0223 X02231

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	72.6	74.5	75.9	77.7	77.5	89.5	81.7	86.0	92.5	96.1	96.1	91.1	171.0
63	69.8	72.9	75.2	77.4	78.0	79.2	81.7	82.7	87.2	94.7	98.6	96.5	91.6	172.3
80	69.9	73.8	76.9	78.0	79.4	80.6	81.6	84.1	88.1	96.4	99.4	97.9	91.9	173.4
100	73.9	75.5	78.1	79.3	81.1	81.4	83.1	85.8	90.3	96.8	100.4	97.6	91.8	173.9
125	78.5	80.9	82.0	82.1	82.5	82.5	84.5	86.8	91.7	96.2	100.5	98.4	92.0	174.5
160	80.9	85.0	85.4	86.1	86.2	85.7	86.7	88.5	92.4	96.1	100.7	98.0	91.6	174.7
200	84.4	84.5	85.3	85.0	85.6	85.1	86.8	88.9	92.8	95.2	100.7	95.7	88.9	174.2
250	85.3	84.9	87.0	87.0	86.0	85.0	86.8	89.2	93.0	95.4	99.7	93.2	85.0	173.5
315	81.9	85.2	87.2	88.3	89.1	87.6	86.9	90.1	93.9	96.7	98.4	91.1	82.6	173.5
400	79.5	82.4	85.0	86.4	88.2	89.1	89.4	89.9	92.6	96.1	96.8	88.9	79.8	172.8
500	76.7	80.1	83.8	84.5	86.3	87.1	88.9	90.2	92.9	95.1	93.6	86.7	76.7	171.6
630	75.7	79.3	82.3	83.6	85.1	86.3	88.2	90.3	92.1	94.1	92.8	84.7	74.9	171.3
800	72.9	77.9	81.1	82.6	85.1	85.0	87.1	89.5	90.7	91.9	91.0	82.4	72.4	170.2
1000	70.5	76.2	79.5	81.5	83.5	84.5	85.5	88.3	90.2	90.2	88.5	79.4	69.5	169.3
1250	68.2	74.7	78.3	80.4	82.0	84.2	85.3	87.1	88.7	89.4	86.9	78.2	67.1	169.0
1600	65.7	71.1	76.4	78.6	80.3	82.5	83.4	85.4	86.5	85.9	84.1	74.3	63.7	167.8
2000	61.7	69.4	73.1	76.7	78.6	79.9	81.9	83.6	84.3	83.3	81.4	70.7	57.7	167.3
2500	57.3	65.1	70.3	73.6	75.8	77.6	79.2	79.9	81.0	79.6	77.1	66.3	51.3	166.7
3150	51.2	60.0	65.7	69.4	73.1	74.8	76.4	76.9	81.6	77.1	66.4	59.3	39.1	168.2
4000	38.2	50.2	56.3	62.2	64.0	66.6	67.9	68.9	73.0	68.9	56.6	46.2	18.7	166.9
5000	24.9	39.4	47.3	53.1	57.0	58.9	60.7	61.5	65.9	60.1	46.9	31.1		169.6
6300	3.6	22.2	31.4	38.2	42.8	46.4	46.8	48.1	51.5	47.0	27.4	5.4		173.0
8000			6.6	15.5	21.7	25.3	25.3	27.3	28.8	23.1				178.3
10000														184.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
0ASPL	90.9	93.0	95.0	95.8	96.9	97.1	98.8	100.3	103.4	106.8	109.7	106.3	100.1	188.4
PNL	94.9	97.7	100.5	102.0	103.4	104.2	105.6	107.1	109.6	111.7	112.6	107.1	99.5	
PNLT	94.9	97.7	100.5	102.0	103.4	104.2	105.6	107.1	111.2	112.3	113.7	108.2	99.5	
DBA	83.6	86.8	89.7	91.2	92.8	93.7	95.0	96.9	99.0	100.4	100.7	94.0	86.0	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH249 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1685.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2475.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0223 TAPE = X02231 TEST PT NO = 0223 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0224 X0224C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	86.1	81.6	82.9	81.7	80.8	84.7	89.1	88.1	95.4	95.8	96.0	98.6	132.9
63	89.4	91.2	88.5	86.8	89.9	87.2	90.9	94.0	92.2	103.5	97.9	96.4	98.8	137.4
80	90.2	94.2	90.2	92.3	92.1	92.7	93.6	92.3	93.7	92.6	95.2	97.4	101.8	136.1
100	89.5	94.8	90.0	92.3	93.2	92.5	94.9	96.1	94.0	94.3	98.0	102.4	105.6	138.5
125	87.2	88.4	90.5	92.4	93.6	93.7	94.8	94.7	94.0	96.0	102.2	106.6	108.8	140.9
160	86.2	82.7	88.7	88.6	88.9	88.2	94.9	91.3	92.0	96.8	103.9	107.1	110.8	141.7
200	87.3	86.1	85.9	87.2	88.8	90.4	93.8	93.9	96.4	97.4	103.6	109.0	112.2	143.0
250	84.0	87.3	87.3	88.9	89.2	90.3	93.5	95.9	97.3	102.4	109.8	113.0	114.1	146.4
315	85.4	87.2	86.7	89.1	89.8	91.7	96.6	95.7	99.4	105.7	111.4	115.1	115.0	148.0
400	86.0	88.0	88.8	89.7	90.7	91.3	102.2	96.1	100.3	108.3	114.0	115.9	112.8	149.0
500	87.2	88.0	89.8	91.3	92.2	92.5	95.4	97.3	102.1	110.6	116.5	116.9	111.3	150.4
630	87.2	89.5	91.0	92.1	92.9	94.2	96.1	99.0	103.0	112.8	117.7	116.6	109.0	151.1
800	89.9	90.2	92.5	93.5	94.1	94.7	97.6	101.0	105.7	113.6	118.9	115.1	106.3	151.6
1000	94.7	94.0	94.7	94.9	95.6	96.5	98.9	101.5	107.5	113.6	118.4	114.1	104.3	151.3
1250	99.0	100.6	98.8	98.7	97.9	98.8	100.7	102.9	108.8	113.1	118.8	112.7	103.5	151.4
1600	102.8	103.4	103.8	102.1	99.7	100.1	102.2	104.7	109.8	112.7	119.3	112.0	104.2	152.0
2000	102.8	103.4	105.1	105.2	103.3	100.4	102.4	105.7	109.8	112.9	117.6	111.0	103.7	151.3
2500	100.2	102.0	103.8	104.4	106.2	105.3	103.2	106.9	110.7	115.0	117.5	111.6	103.8	152.1
3150	99.4	99.9	100.9	101.2	103.0	104.6	107.0	107.7	111.0	115.4	118.4	110.3	103.6	152.4
4000	97.5	98.2	100.6	100.9	100.9	102.4	105.3	108.6	112.2	114.7	115.4	108.7	102.0	151.2
5000	96.8	98.5	99.4	100.3	101.3	101.8	104.7	108.5	112.7	114.3	114.9	107.7	101.0	151.2
6300	94.9	96.2	98.6	99.3	100.7	102.0	104.5	108.7	111.4	113.0	112.8	106.4	96.9	150.2
8000	92.5	95.1	96.7	98.6	98.8	101.1	103.6	107.2	110.9	111.7	111.2	104.7	98.4	149.3
10000	91.8	94.4	96.2	97.5	98.7	101.0	103.2	106.4	109.8	110.9	110.1	103.4	97.4	149.0
12500	89.8	91.7	94.5	96.7	97.1	99.3	101.9	104.8	108.3	108.5	107.5	101.9	95.6	147.9
16000	86.8	90.4	91.8	94.6	95.6	96.8	99.6	102.9	106.0	106.2	105.2	98.9	93.4	147.0
20000	84.7	86.7	89.4	91.9	93.0	95.3	98.1	100.2	103.8	103.5	103.5	96.8	91.9	146.5
25000	81.7	84.6	86.9	89.5	91.0	93.1	96.2	98.0	102.6	102.7	100.2	95.1	88.3	147.2
31500	75.5	79.3	81.0	85.0	85.3	87.5	89.9	92.5	97.5	98.7	96.0	69.8	82.1	145.5
40000	71.3	75.7	77.7	80.6	82.2	84.3	86.9	90.2	95.5	96.3	94.0	85.6	78.5	147.1
50000	67.6	71.8	73.1	75.8	77.7	79.7	82.2	86.2	93.3	94.5	92.4	82.2	73.9	149.2
63000	63.2	70.1	68.6	70.5	72.7	74.8	77.5	82.0	91.6	94.8	89.9	77.1	67.6	153.2
PC-100	59.8	70.6	66.6	64.5	66.3	69.7	73.0	77.2	89.1	95.3	89.0	71.4	59.5	159.4

ORIGINAL PAGE IS  
OF POOR QUALITY

OASPL 109.8 110.9 111.9 112.3 112.7 113.2 115.4 118.1 121.9 125.3 128.9 125.6 122.2 165.5  
PNL 122.5 123.7 125.0 125.6 126.6 126.7 129.1 131.2 134.8 138.3 141.5 136.2 130.7  
PNLT 122.5 124.3 125.0 125.6 127.6 127.2 130.1 131.2 134.8 138.3 141.5 136.2 130.7  
DBA 110.3 111.3 112.4 112.5 112.8 113.1 114.9 117.8 121.7 125.2 128.8 123.9 117.6

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH265 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM VB = 1713.4 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.0 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-400-0224 TAPE = X0224C TEST PT NO = 0224 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0224 X0224F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.3	93.3	92.0	92.0	90.7	90.3	91.6	92.3	96.0	101.4	106.5	110.6	112.4	144.3
315	91.3	93.3	92.0	92.0	91.6	91.9	95.2	92.9	97.0	104.3	109.5	112.2	111.7	145.6
400	93.1	93.5	91.6	92.5	92.4	91.5	100.9	93.3	100.1	107.9	113.6	115.2	112.9	148.6
500	93.1	94.1	93.5	93.0	94.1	92.9	94.7	95.5	101.8	111.2	116.3	117.1	114.0	150.7
630	94.9	94.4	94.8	94.8	94.8	94.6	95.5	97.4	104.6	112.3	118.2	117.1	114.3	151.7
800	94.8	95.9	96.0	95.6	96.2	95.3	96.9	99.3	106.9	112.9	118.5	117.5	115.0	152.2
1000	97.5	96.6	97.5	97.1	97.3	97.1	98.3	99.9	108.1	112.3	118.7	116.1	114.2	152.0
1250	99.8	98.4	98.3	97.5	99.7	99.6	100.2	101.2	109.4	112.1	119.5	115.7	115.3	152.6
1600	105.3	105.7	102.7	101.5	101.7	101.1	101.9	103.4	109.8	112.8	118.3	115.1	115.2	152.4
2000	109.4	108.9	108.1	105.1	105.4	101.7	102.5	104.7	111.0	115.2	118.5	116.1	115.7	153.6
2500	108.2	108.0	108.8	108.2	109.1	106.9	103.6	106.1	111.6	115.8	119.6	115.0	115.8	154.4
3150	107.9	108.6	109.3	108.6	106.3	106.6	107.7	107.3	113.3	115.5	116.9	113.6	114.3	153.6
4000	106.9	106.6	106.5	105.6	104.6	105.0	106.5	108.7	113.7	115.0	116.1	112.3	113.1	153.0
5000	105.1	104.9	106.3	105.6	105.4	104.8	106.2	108.6	112.5	113.8	114.2	111.2	112.2	152.0
6300	104.2	105.2	105.2	105.1	104.8	105.0	106.0	108.8	112.1	112.5	112.6	109.5	110.7	151.4
8000	102.2	102.8	104.2	104.0	102.9	104.1	105.1	107.3	111.2	111.9	111.7	108.3	109.8	150.7
10000	99.7	101.5	102.2	103.1	103.3	104.0	104.7	106.5	110.2	110.0	109.6	107.4	108.7	150.1
12500	101.4	102.8	103.1	102.9	101.7	102.3	103.6	105.1	108.4	108.3	107.9	104.9	107.0	149.6
16000	99.0	99.5	100.9	101.6	100.2	99.8	101.4	103.3	106.8	106.3	106.9	103.6	106.3	149.2
20000	95.5	97.9	97.8	99.1	97.6	98.3	100.1	100.8	105.9	105.5	103.5	101.7	102.5	149.0
25000	92.8	93.6	94.8	95.8	95.6	96.1	98.0	98.3	101.3	101.9	99.6	96.4	95.6	147.8
31500	89.1	90.7	91.5	92.6	89.9	90.5	91.4	92.5	100.0	100.4	98.4	93.0	92.9	148.1
40000	81.9	84.5	84.8	87.2	86.8	87.3	88.3	90.2	98.2	99.0	97.2	90.0	88.6	149.9
50000	77.4	80.5	81.1	82.4	82.3	82.7	83.6	86.2	97.5	100.2	95.6	85.8	83.3	153.6
63000	72.8	75.7	75.6	76.7	77.3	77.8	78.9	82.0	96.5	102.2	96.2	81.7	76.7	159.6
80000	66.8	72.5	69.6	69.9	70.2	72.7	74.5	77.2	86.7	92.4	85.4	71.9	66.9	156.8

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8ASPL 116.4 116.6 116.8 116.1 115.7 115.2 116.1 117.7 122.7 125.3 128.9 126.9 126.1 166.7  
 PNL 129.1 129.5 129.8 129.1 128.6 127.9 128.9 130.1 135.3 137.8 141.0 137.9 138.0  
 PNLT 129.1 129.5 129.8 129.1 129.9 127.9 129.9 130.1 135.3 137.8 141.0 137.9 138.0  
 DBA 188.8 193.6 191.6 192.3 192.6 194.4 195.9 198.7 209.9 215.4 209.5 195.5 191.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH265 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1713.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0224 TAPE = X0224F TEST PT NO = 0224 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0224 X02241

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.6	73.7	72.8	74.4	74.8	74.0	83.2	75.3	81.3	88.0	92.1	91.6	86.0	166.6
63	71.7	74.2	74.7	74.9	76.4	75.3	77.0	77.4	82.9	91.3	94.8	93.5	87.0	168.7
80	73.4	74.5	75.9	76.6	77.1	77.0	77.7	79.3	85.8	92.3	96.7	93.4	87.2	169.8
100	73.3	75.9	77.1	77.4	78.4	77.6	79.1	81.1	88.0	92.3	96.9	93.7	87.7	170.3
125	75.9	76.5	78.5	78.8	79.4	79.4	80.5	81.7	89.1	92.2	97.0	92.1	86.7	170.0
160	77.9	78.1	79.2	79.1	81.7	81.8	82.2	82.8	90.3	91.9	97.6	91.4	87.4	170.6
200	83.2	85.2	83.4	82.9	83.5	83.1	83.8	84.8	90.5	92.3	96.2	90.6	86.9	170.4
250	87.0	88.2	88.5	86.3	87.1	83.5	84.1	85.9	91.4	94.5	96.0	91.1	86.8	171.7
315	85.3	86.9	89.0	89.1	90.5	88.5	85.0	87.1	91.7	94.7	96.7	89.5	86.0	172.4
400	84.5	87.1	89.1	89.2	87.4	87.9	88.8	87.9	93.1	94.0	93.5	87.4	83.6	171.7
500	83.1	84.7	86.0	86.0	85.5	86.0	87.4	89.0	93.2	93.1	92.3	85.5	81.3	171.0
630	80.7	82.6	85.4	85.6	85.9	85.5	86.7	88.7	91.7	91.6	89.9	83.7	79.4	170.1
800	79.4	82.6	84.0	84.9	85.1	85.4	86.3	88.6	90.9	89.9	87.8	81.3	76.7	169.4
1000	77.0	79.9	82.8	83.6	83.0	84.5	85.2	86.9	89.8	88.9	86.4	79.4	74.7	168.8
1250	73.9	78.2	80.6	82.6	83.4	84.2	84.7	86.0	88.6	86.7	83.8	77.7	72.1	168.1
1600	74.8	78.9	81.1	82.0	81.4	82.3	83.4	84.2	86.3	84.4	81.3	73.9	68.1	167.6
2000	71.3	75.1	78.5	80.4	79.7	79.6	81.0	82.2	84.4	81.8	79.3	71.0	64.3	167.2
2500	66.1	72.2	74.5	77.3	76.7	77.6	79.1	79.0	82.6	79.8	74.1	66.2	55.6	167.1
3150	60.0	65.5	69.6	72.4	73.2	74.1	75.6	74.9	76.1	73.8	66.8	55.9	40.4	165.8
4000	50.1	57.8	62.5	65.9	64.6	65.6	66.0	65.8	71.0	67.6	59.4	43.6	23.2	166.2
5000	33.2	44.1	49.6	55.2	56.5	57.5	58.0	58.1	63.0	58.6	48.4	26.9		168.0
6300	10.8	25.9	33.7	39.6	41.9	43.1	43.2	43.3	50.1	45.6	29.0			171.7
8000			6.9	14.6	18.7	20.4	20.4	19.9	27.8	22.7				177.7
10000														174.9
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	93.1	95.0	96.4	96.4	96.7	96.2	96.8	97.9	102.2	104.0	106.5	102.0	96.9	184.6
PNL	98.2	100.9	102.8	103.5	103.6	103.2	104.2	105.0	108.8	109.4	110.0	103.9	99.0	
PNLT	98.2	100.9	103.5	104.0	104.2	103.2	104.2	105.0	109.4	110.0	110.0	103.9	99.0	
DBA	88.1	90.6	92.6	93.2	93.1	93.3	94.1	95.5	98.6	98.4	97.9	91.6	87.3	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH265 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.45 RELHUM = 88.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1713.4 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2495.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0224 TAPE = X02241 TEST PT NO = 0224 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0225 X0225C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.5	83.6	83.3	88.4	88.0	87.8	87.2	87.9	89.3	98.7	97.5	97.7	98.1	134.7
63	92.2	91.5	91.2	96.6	96.1	96.0	95.9	96.5	95.7	106.5	104.9	103.9	104.8	142.1
80	90.7	95.0	90.7	92.3	93.1	93.7	95.1	93.5	95.2	95.8	97.4	99.9	102.3	137.4
100	91.0	97.3	92.8	95.1	95.9	95.3	96.7	97.8	96.0	98.3	100.7	104.2	106.6	140.5
125	86.9	89.9	93.0	94.2	95.8	95.7	96.3	96.7	96.5	99.8	105.7	109.1	110.3	143.2
160	87.9	86.5	90.7	91.8	91.9	92.2	100.4	95.0	95.5	101.8	107.4	110.1	113.0	144.7
200	89.1	88.6	90.1	92.4	94.0	95.1	97.5	96.9	100.9	103.7	107.6	112.3	115.2	146.4
250	88.8	92.8	93.1	94.1	93.5	94.3	97.7	99.9	101.3	108.1	114.0	117.0	117.1	150.2
315	88.9	91.9	91.9	94.1	96.1	96.7	100.1	99.7	103.7	110.7	115.4	118.6	118.0	151.7
400	89.2	92.5	93.5	94.2	95.9	96.0	107.2	100.6	104.8	113.6	118.5	119.7	118.1	153.5
500	91.0	93.3	94.3	95.8	96.2	97.3	99.4	101.6	106.8	115.4	120.3	120.7	118.8	154.7
630	92.2	94.2	96.0	96.4	97.6	98.7	100.4	103.0	107.5	117.3	121.4	121.4	119.5	155.8
800	95.4	96.5	97.5	98.0	99.1	99.7	101.9	104.5	109.5	117.6	123.0	121.6	119.5	156.6
1000	100.7	101.5	101.0	100.6	100.6	101.0	102.9	105.3	111.2	117.1	122.7	122.6	120.0	156.9
1250	103.5	106.1	105.6	105.2	104.7	104.3	105.2	107.1	111.8	117.4	123.5	122.2	119.2	157.3
1600	108.0	106.4	106.1	104.6	104.2	104.3	105.9	108.2	113.6	116.7	123.3	120.5	117.5	156.8
2000	108.3	107.2	108.1	107.3	106.1	104.2	105.9	108.2	113.6	117.1	122.6	119.0	114.2	156.2
2500	104.5	107.0	107.8	108.4	109.2	107.8	106.5	110.1	115.0	119.0	121.8	117.4	112.6	156.3
3150	103.6	105.4	105.7	106.0	107.6	108.9	109.3	109.7	113.3	118.4	120.4	115.1	110.8	155.2
4000	100.5	102.5	104.3	104.9	105.9	106.4	108.5	110.6	114.0	117.7	117.9	114.2	109.5	154.2
5000	100.0	102.5	103.9	104.1	105.3	105.8	108.2	111.0	113.7	116.3	117.7	112.7	108.0	153.7
6300	98.7	101.0	102.6	103.1	105.0	105.0	107.3	110.7	112.9	114.8	116.1	110.6	106.9	152.7
8000	96.5	100.4	101.4	102.9	103.6	104.9	106.1	109.7	111.6	113.9	114.5	109.2	105.4	151.9
10000	95.0	98.9	100.5	101.8	103.2	105.0	106.2	108.7	110.3	113.1	113.1	108.1	104.2	151.5
12500	93.1	96.4	99.0	101.0	101.3	103.1	104.4	106.3	108.9	110.5	111.5	106.4	102.4	150.4
16000	90.3	94.9	96.1	98.6	100.3	100.6	102.4	104.7	107.2	108.5	109.5	104.6	100.2	149.8
20000	87.9	92.0	94.1	95.9	98.0	99.3	100.6	102.5	104.8	106.0	107.5	101.8	97.9	149.3
25000	84.5	89.4	91.7	94.0	96.2	97.6	99.2	101.0	104.4	105.5	105.5	100.3	94.3	150.4
31500	78.5	84.0	86.1	89.3	90.6	92.5	94.2	96.5	100.1	102.2	101.7	95.9	88.4	149.5
40000	74.6	81.3	83.5	85.9	87.5	89.9	91.2	94.8	98.8	101.7	101.0	93.5	86.4	152.3
50000	71.6	78.1	80.2	82.1	84.7	87.3	88.4	92.2	97.8	101.4	98.7	92.2	82.9	155.3
63000	68.2	76.3	76.8	78.8	82.0	83.9	84.3	90.9	96.2	102.3	98.1	91.4	81.1	160.4
80000	65.9	76.9	74.2	75.9	78.7	80.1	80.2	87.7	96.4	102.5	97.4	88.6	76.8	167.0

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CASPL 114.3 115.3 115.9 116.2 116.8 117.1 118.7 120.7 124.3 128.8 132.8 131.3 129.2 171.0  
PNL 127.1 128.3 129.1 129.6 130.3 130.7 132.0 133.7 137.2 141.6 144.7 141.8 138.8  
PNLT 127.1 129.1 129.1 129.6 130.3 130.7 133.2 133.7 137.2 141.6 144.7 141.8 138.8  
DBA 115.0 115.7 116.3 116.3 116.9 116.9 118.1 120.4 124.3 128.7 132.7 130.5 127.7

NASA DUAL FLOW SHOCK CELL/COAN, C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH250	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNINT =	LBS XNL =	RPM XNH =	RPM V8 = 1690.3 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2512.1 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0225	TAPE = X0225C	TEST PT NO = 0225	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0225 X0225F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.5	83.6	83.3	88.4	88.0	87.8	87.2	87.9	89.3	98.7	97.5	97.7	98.1	134.7
63	92.2	91.5	91.2	96.6	96.1	96.0	95.9	96.5	95.7	106.5	104.9	103.9	104.8	142.1
80	90.7	95.0	90.7	92.3	93.1	93.7	95.1	93.5	95.2	95.8	97.4	99.9	102.3	137.4
100	91.0	97.3	92.8	95.1	95.9	95.3	96.7	97.8	96.0	98.3	100.7	104.2	106.6	140.5
125	86.9	89.9	93.0	94.2	95.8	95.7	96.3	96.7	96.5	99.8	105.7	109.1	110.3	143.2
160	87.9	86.5	90.7	91.8	91.9	92.2	100.4	95.0	95.5	101.8	107.4	110.1	113.0	144.7
200	89.1	88.6	90.1	92.4	94.0	95.1	97.5	96.9	100.9	103.7	107.6	112.3	115.2	146.4
250	88.8	92.8	93.1	94.1	93.5	94.3	97.7	99.9	101.3	108.1	114.0	117.0	117.1	150.2
315	88.9	91.9	91.9	94.1	96.1	96.7	100.1	99.7	103.7	110.7	115.4	118.6	118.0	151.7
400	89.2	92.5	93.5	94.2	95.9	96.0	107.2	100.6	104.8	113.6	118.5	119.7	118.1	153.5
500	91.0	93.3	94.3	95.8	96.2	97.3	99.4	101.6	106.8	115.4	120.3	120.7	118.8	154.7
630	92.2	94.2	96.0	96.4	97.6	98.7	100.4	103.0	107.5	117.3	121.4	121.4	119.5	155.8
800	95.4	96.5	97.5	98.0	99.1	99.7	101.9	104.5	109.5	117.6	123.0	121.6	119.5	156.6
1000	100.7	101.5	101.0	100.6	100.6	101.0	102.9	105.3	111.2	117.1	122.7	122.6	120.0	156.9
1250	103.5	106.1	105.6	105.2	104.7	104.3	105.2	107.1	111.8	117.4	123.5	122.2	119.2	157.3
1600	108.0	106.4	106.1	104.6	104.2	104.3	105.9	108.2	113.6	116.7	123.3	120.5	117.5	156.8
2000	108.3	107.2	108.1	107.3	106.1	104.2	105.9	108.2	113.6	117.1	122.6	119.0	114.2	156.2
2500	104.5	107.0	107.8	108.4	109.2	107.8	106.5	110.1	115.0	119.0	121.8	117.4	112.6	156.3
3150	103.6	105.4	105.7	106.0	107.6	108.9	109.3	109.7	113.3	118.4	120.4	115.1	110.8	155.2
4000	100.5	102.5	104.3	104.9	105.9	106.4	108.5	110.6	114.0	117.7	117.9	114.2	109.5	154.2
5000	100.0	102.5	103.9	104.1	105.3	105.8	108.2	111.0	113.7	116.3	117.7	112.7	108.0	153.7
6300	98.7	101.0	102.6	103.1	105.0	105.0	107.3	110.7	112.9	114.8	116.1	110.6	106.9	152.7
8000	96.5	100.4	101.4	102.9	103.6	104.9	106.1	109.7	111.6	113.9	114.5	109.2	105.4	151.9
10000	95.0	98.9	100.5	101.8	103.2	105.0	106.2	108.7	110.3	113.1	113.1	108.1	104.2	151.5
12500	93.1	96.4	99.0	101.0	101.3	103.1	104.4	106.3	108.9	110.5	111.5	106.4	102.4	150.4
16000	90.3	94.9	96.1	98.6	100.3	100.6	102.4	104.7	107.2	108.5	109.5	104.6	100.2	149.8
20000	87.9	92.0	94.1	95.9	98.0	99.3	100.6	102.5	104.8	106.0	107.5	101.8	97.9	149.3
25000	84.5	89.4	91.7	94.0	96.2	97.6	99.2	101.0	104.4	105.5	105.5	100.3	94.3	150.4
31500	78.5	84.0	86.1	89.3	90.6	92.5	94.2	96.5	100.1	102.2	101.7	95.9	88.4	149.5
40000	74.6	81.3	83.5	85.9	87.5	89.9	91.2	94.8	98.8	101.7	101.0	93.5	86.4	152.3
50000	71.6	78.1	80.2	82.1	84.7	87.3	88.4	92.2	97.8	101.4	98.7	92.2	82.9	155.3
63000	68.2	76.3	76.8	78.8	82.0	83.9	84.3	90.9	96.2	102.3	98.1	91.4	81.1	160.4
80000	65.9	76.9	74.2	75.9	78.7	80.1	80.2	87.7	96.4	102.5	97.4	88.6	76.8	167.0
DASPL	114.3	115.3	115.9	116.2	116.8	117.1	116.7	120.7	124.3	128.8	132.8	131.3	129.2	171.0
PNL	127.1	128.3	129.1	129.6	130.3	130.7	132.0	133.7	137.2	141.6	144.7	141.8	138.8	
PNLT	127.1	129.1	129.1	129.6	130.3	130.7	133.2	133.7	137.2	141.6	144.7	141.8	138.8	
DBA	186.7	197.3	195.1	196.9	199.7	201.2	201.5	208.6	216.9	222.9	217.9	209.4	198.0	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH250 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1690.3 FPS AE8 = 4.0 SQ IN  
 FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2512.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0225 TAPE = X0225F TEST PT NO = 0225 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0225 X02251

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	72.6	74.7	76.1	78.2	78.5	89.5	82.5	86.0	93.7	97.1	96.1	91.1	171.5
63	69.6	73.4	75.5	77.7	78.5	79.7	81.7	83.5	88.0	95.5	98.8	97.0	91.8	172.7
80	70.7	74.3	77.1	78.2	79.9	81.1	82.6	84.9	88.6	97.4	99.9	97.6	92.4	173.8
100	73.9	76.5	78.6	79.8	81.4	82.1	84.1	86.3	90.6	97.6	101.4	97.8	92.3	174.6
125	79.0	81.4	82.0	82.4	82.8	83.3	85.0	87.0	92.2	97.0	101.0	98.7	92.5	174.9
160	81.6	85.8	86.4	86.8	86.7	86.6	87.2	88.7	92.7	97.1	101.7	98.0	91.4	175.3
200	85.9	86.0	86.8	86.0	86.1	86.4	87.8	89.7	94.3	96.2	101.2	95.9	89.2	174.8
250	85.8	86.4	88.5	88.5	87.7	86.0	87.6	89.4	94.0	96.4	100.2	94.0	85.2	174.2
315	81.6	85.9	88.0	89.3	90.6	89.4	87.9	91.1	95.1	97.9	98.9	91.8	82.8	174.3
400	80.3	83.9	85.5	86.6	88.7	90.1	90.4	90.4	93.1	96.9	97.0	88.9	80.0	173.3
500	76.7	80.6	83.8	85.3	86.8	87.4	89.4	90.9	93.4	95.8	94.1	87.4	77.7	172.2
630	75.7	80.3	83.0	84.1	85.9	86.5	88.7	91.1	92.9	94.1	93.3	85.2	75.2	171.7
800	73.9	78.4	81.4	82.9	85.3	85.5	87.6	90.5	91.7	92.1	91.3	82.4	72.9	170.7
1000	71.3	77.4	80.0	82.5	83.8	85.3	86.3	89.3	90.2	91.0	89.2	80.4	70.3	169.9
1250	69.2	75.7	78.8	81.2	83.3	85.2	86.3	88.1	88.7	89.9	87.4	78.4	67.6	169.5
1600	66.5	72.6	76.9	80.1	81.1	83.0	84.1	85.4	86.8	86.6	84.9	75.3	63.5	168.4
2000	62.7	70.4	73.6	77.5	79.9	80.4	81.9	83.6	84.8	84.0	81.9	72.0	58.2	167.8
2500	58.5	66.3	70.8	74.1	77.1	78.6	79.7	80.7	81.5	80.3	78.1	66.3	51.1	167.4
3150	51.7	61.2	66.5	70.7	73.9	75.6	76.9	77.6	79.2	77.3	72.8	59.9	39.1	168.5
4000	39.5	51.2	57.1	62.7	65.3	67.6	68.9	69.9	71.1	69.4	62.7	46.5	18.7	167.5
5000	25.9	40.9	48.3	53.9	57.2	60.1	60.9	62.8	63.6	61.3	52.2	33.4		170.3
6300	5.1	23.4	32.9	39.2	44.3	47.6	48.0	49.4	50.5	46.7	32.1	5.0		173.4
8000			8.1	16.7	23.5	26.5	25.8	28.8	27.6	22.9	1.0			178.5
10000														185.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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0ASPL	91.6	94.0	95.8	96.7	97.7	98.0	99.4	100.9	104.0	107.6	110.3	106.5	100.4	188.9
PNL	95.5	98.7	101.2	102.9	104.4	105.1	106.2	107.6	110.2	112.5	113.3	107.3	99.7	
PNLT	95.5	98.7	101.7	102.9	104.4	105.1	106.7	107.6	110.7	113.0	114.3	108.4	99.7	
DBA	84.2	87.8	90.3	92.0	93.6	94.4	95.7	97.6	99.5	101.1	101.2	94.4	86.2	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH250      TEST DATE = 08-23-82      LOCAT = C41 ANECH CH      CONFIG = 2      MODEL = AX      FLTVEL = 0. FPS  
 IAPLHA = SB59      IEQA = NO      PWL AREA = FULL SPHERE      TAMB F = 78.00      PAMB HG = 29.35      RELHUM = 75.2 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1690.3 FPS      AE8 = 4.0 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2512.1 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0225      TAPE = X02251      TEST PT NO = 0225      NC = AE060      CORR FAN SPEED =      RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0226 X0226C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.3	86.3	81.8	83.1	82.5	81.1	84.0	85.9	86.8	95.9	95.5	92.0	99.4	132.5
63	92.2	91.2	88.5	87.8	90.4	88.5	89.9	93.5	91.7	103.5	98.7	92.6	99.0	137.4
80	89.9	93.7	90.0	92.0	91.6	92.7	93.1	92.5	93.7	92.8	95.4	97.4	102.0	136.0
100	89.7	94.8	90.5	92.3	93.7	93.0	95.2	96.3	94.3	94.6	98.0	101.7	105.6	138.5
125	87.4	88.7	91.0	92.4	94.1	94.0	94.8	95.2	94.0	96.0	102.9	106.3	109.3	141.1
160	86.7	82.5	89.0	89.1	89.1	89.0	94.9	90.8	92.5	97.5	104.4	107.6	111.3	142.2
200	87.6	86.6	86.6	87.7	89.3	90.6	94.5	94.7	97.4	97.9	104.1	109.5	112.9	143.6
250	84.8	87.8	87.3	89.1	89.5	90.8	94.0	96.1	97.8	102.6	109.8	113.2	114.1	146.5
315	85.4	87.2	87.7	89.4	90.8	91.9	96.8	96.0	99.7	106.5	112.4	115.6	115.2	148.6
400	86.2	88.0	89.3	89.7	91.4	91.8	102.7	96.8	100.5	108.6	114.7	116.7	113.8	149.8
500	87.2	88.3	89.8	91.8	91.7	93.5	96.4	97.6	102.8	111.4	117.5	117.4	111.8	151.1
630	87.7	89.7	91.2	92.1	93.4	94.7	96.6	99.0	103.2	112.8	118.2	116.4	109.8	151.3
800	90.2	90.0	92.2	93.5	94.1	95.5	98.1	101.3	106.0	113.8	119.2	115.4	106.5	151.9
1000	95.2	94.2	95.2	95.4	95.9	96.7	99.4	102.3	107.2	113.6	119.2	114.6	105.0	151.8
1250	100.8	101.8	99.8	99.5	98.9	99.3	101.4	103.1	109.1	113.4	119.5	112.4	104.0	152.0
1600	104.3	103.7	104.1	102.8	100.7	100.3	102.7	104.7	109.8	113.7	119.3	111.7	104.2	152.2
2000	103.5	103.9	105.8	106.5	105.3	101.7	102.7	105.7	109.8	113.6	117.9	110.5	103.0	151.7
2500	101.0	102.0	104.1	105.1	106.9	106.3	104.7	107.1	111.5	115.3	118.3	110.8	104.1	152.6
3150	99.6	100.2	100.9	102.2	103.3	105.9	108.5	107.5	111.0	115.1	118.4	110.8	103.3	152.5
4000	97.3	98.2	100.1	101.2	101.4	103.4	106.0	109.1	111.7	115.4	116.2	108.7	102.5	151.7
5000	97.5	98.3	99.1	100.5	101.6	102.5	105.7	109.0	112.5	114.3	115.4	108.0	100.7	151.4
6300	95.2	97.0	98.3	99.3	101.2	101.7	105.0	108.9	112.2	113.0	113.8	105.9	100.1	150.6
8000	93.0	95.8	97.4	98.6	99.6	101.1	104.3	107.9	110.9	111.9	112.0	104.2	98.9	149.7
10000	91.8	95.2	96.2	97.7	99.5	101.5	103.5	106.9	109.8	111.4	110.6	103.6	97.9	149.4
12500	90.3	92.2	94.2	96.2	97.3	100.1	102.6	105.3	108.3	108.2	107.8	101.1	96.1	148.0
16000	87.3	90.6	91.6	94.6	95.8	97.8	100.6	103.4	106.2	106.0	106.5	99.1	93.9	147.4
20000	84.7	87.5	89.4	91.7	94.0	95.8	98.9	100.7	103.0	103.5	104.2	96.5	91.7	146.6
25000	82.0	84.9	87.1	89.8	91.5	94.1	96.7	98.7	102.6	102.9	100.2	94.6	88.8	147.4
31500	75.5	79.5	80.8	84.8	85.6	88.5	90.9	93.5	97.8	99.0	95.8	89.1	82.6	145.8
40000	72.0	75.9	77.9	80.3	82.4	84.3	87.9	90.7	95.5	97.1	94.2	85.1	78.8	147.5
50000	67.9	72.0	73.1	76.0	78.0	80.5	83.7	86.9	93.3	95.5	91.6	81.2	73.9	149.5
63000	63.4	69.4	69.1	70.5	72.7	75.3	78.3	84.0	92.3	95.1	91.1	76.8	67.8	153.8
80000	60.0	69.9	66.9	64.2	66.6	70.0	72.3	80.3	90.3	93.5	89.5	70.9	59.5	158.8

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CASPL 110.6 111.3 112.2 112.9 113.4 113.9 116.2 118.4 122.0 125.6 129.4 125.8 122.6 165.6  
PNL 123.1 123.9 125.2 126.2 127.3 127.6 130.1 131.5 134.7 138.5 141.8 136.2 130.9  
PNLT 123.1 124.5 125.2 126.2 127.3 127.6 131.1 131.5 134.7 138.5 141.8 136.2 130.9  
DBA 111.1 111.6 112.7 113.3 113.6 113.9 115.8 118.0 121.8 125.5 129.3 124.0 117.9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH266	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 88.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1719.2 FPS	AE8 =	4.0 SQ IN
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2529.3 FPS	AE18 =	18.0 SQ IN
RUNPT = 82F-400-0226	TAPE = X0226C	TEST PT NO = 0226	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0226 X0226F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.8	93.7	91.9	92.2	91.0	90.8	92.1	92.5	96.2	102.1	107.5	111.1	112.6	144.8
315	91.8	93.7	91.9	92.2	92.6	92.1	95.5	93.2	97.3	104.8	110.3	113.0	112.7	146.3
400	93.1	93.5	92.6	92.8	93.2	92.0	101.4	94.1	100.9	108.8	114.8	115.9	113.7	149.5
500	93.8	94.3	94.2	93.1	93.6	93.9	95.7	95.8	102.0	111.1	116.7	116.7	114.6	150.8
630	94.9	94.7	94.8	95.3	95.3	95.1	96.0	97.4	104.9	112.5	118.4	117.4	114.6	152.0
800	95.3	96.1	96.2	95.6	96.2	96.0	97.4	99.5	106.7	112.9	119.3	118.1	115.7	152.8
1000	97.9	96.4	97.3	97.1	97.5	97.4	98.8	100.7	108.3	112.5	119.3	115.7	114.7	152.3
1250	100.2	98.5	98.7	98.0	100.7	100.1	100.9	101.4	109.4	113.1	119.4	115.3	115.3	152.6
1600	107.4	107.2	103.9	102.3	102.7	101.4	102.4	103.3	109.6	113.2	118.2	114.3	114.3	152.3
2000	111.1	109.3	108.4	105.9	107.5	103.0	102.6	104.5	111.6	115.3	119.1	115.2	115.9	154.0
2500	108.5	108.4	109.6	109.5	109.9	107.9	105.1	106.3	111.6	115.5	119.6	115.5	115.6	154.6
3150	108.6	108.6	109.5	109.3	106.6	107.9	109.2	107.0	112.8	116.2	117.6	113.6	114.8	154.1
4000	107.2	106.8	106.5	106.6	105.1	106.0	107.3	109.2	113.4	114.9	116.6	112.5	112.7	153.1
5000	104.8	104.9	105.8	105.8	105.6	105.5	107.2	109.1	113.2	113.7	115.1	110.5	112.3	152.4
6300	105.0	105.0	105.0	105.4	105.3	104.7	106.5	109.0	112.1	112.8	113.4	109.0	111.2	151.6
8000	102.5	103.5	104.0	104.0	103.6	104.1	105.8	108.0	111.2	112.4	112.2	108.6	110.3	151.1
10000	100.2	102.2	102.9	103.1	104.1	104.5	105.0	107.1	110.4	110.0	110.1	106.9	109.5	150.4
12500	101.4	103.6	103.1	103.1	101.9	103.1	104.6	105.8	108.6	108.1	109.2	105.2	107.6	150.0
16000	99.5	100.0	100.7	101.1	100.4	100.8	102.4	103.8	105.9	106.2	107.5	103.2	105.9	149.2
20000	96.0	98.1	97.8	99.1	98.6	98.8	100.7	101.2	106.0	106.0	103.7	101.4	103.3	149.4
25000	92.8	94.4	94.8	95.5	96.1	97.1	98.6	99.2	101.5	102.2	99.3	95.7	96.1	148.1
31500	89.3	90.9	91.8	92.8	90.2	91.5	92.4	93.5	100.0	101.2	98.6	92.5	93.2	148.6
40000	81.9	84.7	84.6	87.0	87.0	87.3	89.3	90.7	98.2	100.0	96.4	89.0	88.6	150.2
50000	78.1	80.8	81.3	82.2	82.6	83.5	85.1	86.9	98.2	100.5	96.9	85.6	83.5	154.2
63000	73.0	75.9	75.6	76.9	77.3	78.3	79.7	84.0	97.7	100.4	96.7	81.2	76.7	159.1
80000	67.1	71.8	70.1	69.9	70.6	73.0	73.7	80.2	87.9	90.6	86.9	71.4	66.9	156.4
OASPL	117.2	117.0	117.0	116.7	116.4	115.9	116.9	118.1	122.7	125.5	129.4	126.8	126.3	166.7
PNL	129.7	129.7	130.1	129.8	129.5	128.8	129.9	130.5	135.2	138.3	141.3	138.0	138.2	
PNLT	130.8	130.8	130.1	129.8	129.5	128.8	131.0	130.5	135.2	138.3	141.3	138.0	138.2	
DBA	189.1	193.1	191.9	192.3	192.8	194.7	195.7	201.4	211.1	213.8	210.1	195.0	191.1	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE	=	ADH266	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	400. FPS
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	71.00	PAMB HG	=	29.40	RELHUM	=	88.3 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		NBFR	=	

FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1719.2 FPS	AE8	=	4.0 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2529.3 FPS	AE18	=	18.0 SQ IN

RUNPT = 82F-400-0226 TAPE = X0226F TEST PT NO = 0226 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0226 X02261

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.6	73.7	73.8	74.7	75.6	74.5	83.7	76.0	82.1	89.0	93.4	92.3	36.7	167.5
63	72.3	74.4	75.4	75.0	75.9	76.3	78.0	77.7	83.1	91.2	95.2	93.1	87.6	168.8
80	73.4	74.7	75.9	77.1	77.6	77.5	78.2	79.3	86.0	92.6	96.9	93.6	87.5	170.0
100	73.8	76.1	77.3	77.4	78.4	78.4	79.6	81.3	87.8	92.9	97.7	94.2	88.5	170.9
125	76.2	76.3	78.3	78.8	79.7	79.7	81.0	82.4	89.3	92.4	97.7	91.8	87.2	170.4
160	78.3	78.3	79.6	79.6	82.7	82.3	83.0	83.0	90.2	92.8	97.6	91.1	87.4	170.6
200	85.2	86.7	84.6	83.7	84.5	83.4	84.3	84.8	90.2	92.8	96.1	89.8	86.0	170.4
250	88.6	88.5	88.9	87.1	89.1	84.8	84.3	85.7	92.1	94.6	96.6	90.2	86.9	172.0
315	85.7	87.3	89.7	90.4	91.3	89.5	86.5	87.2	91.7	94.5	96.7	90.0	85.8	172.6
400	85.3	87.1	89.3	89.9	87.7	89.1	90.3	87.6	92.6	94.7	94.2	87.4	84.0	172.1
500	83.3	84.9	86.0	87.0	86.0	87.0	88.1	89.5	92.9	93.1	92.7	85.7	81.0	171.2
630	80.5	82.6	84.9	85.9	86.2	86.3	87.7	89.2	92.3	91.5	90.8	83.0	79.4	170.4
800	80.1	82.3	83.8	85.2	85.6	85.2	86.8	88.8	90.9	90.1	88.5	80.8	77.2	169.7
1000	77.2	80.6	82.6	83.6	83.8	84.5	86.0	87.7	89.8	89.5	86.9	79.7	75.2	169.2
1250	74.4	79.0	81.3	82.6	84.1	84.7	85.0	86.5	88.8	86.7	84.4	77.3	72.9	168.4
1600	74.8	79.7	81.1	82.2	81.7	83.0	84.3	84.9	86.6	84.2	82.6	74.2	68.6	168.1
2000	71.8	75.6	78.2	79.9	80.0	80.6	82.0	82.7	83.5	81.7	79.9	70.5	63.9	167.3
2500	66.6	72.4	74.3	77.3	77.7	78.1	79.8	79.4	82.7	80.3	74.3	66.0	56.4	167.4
3150	60.0	66.2	69.6	72.2	73.7	75.1	76.3	75.8	76.3	74.1	66.6	55.2	40.9	166.2
4000	50.3	58.1	62.8	66.2	64.9	66.6	67.1	66.9	71.0	68.3	59.6	43.2	23.4	166.6
5000	33.2	44.3	49.3	54.9	56.7	57.5	59.0	58.7	63.0	59.6	47.6	25.9		168.2
6300	11.6	26.1	34.0	39.3	42.2	43.9	44.7	44.1	50.9	45.9	30.3			172.3
8000		6.9	14.8	18.7	20.9	21.2	21.9	29.1	21.0					177.1
10000														174.4
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL	94.0	95.4	96.7	97.1	97.4	96.9	97.7	98.2	102.2	104.2	106.9	102.0	97.2	184.7
PNL	99.2	101.1	103.0	103.9	104.3	104.0	105.1	105.5	108.8	109.8	110.3	103.7	99.1	
PNLT	99.7	101.7	103.7	103.9	104.3	104.6	105.6	105.5	109.3	110.4	110.3	103.7	99.1	
DBA	88.7	90.9	92.7	93.6	93.7	94.0	94.9	95.9	98.7	98.6	98.4	91.4	87.4	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL	=	ADH266	TEST DATE	=	08-24-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	400. FPS	
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	71.00	PAMB HG	=	29.40	RELHUM	=	88.3 PCT	
WIND DIR	=		DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=	

FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1719.2 FPS	AE8	=	4.0 SQ IN
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2529.3 FPS	AE18	=	18.0 SQ IN

RUNPT = 82F-400-0226 TAPE = X02261 TEST PT NO = 0226 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0227 X0227C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	87.8	83.6	87.4	88.2	86.8	88.2	87.9	89.6	98.7	97.8	97.2	97.9	134.7
63	94.9	94.5	90.5	94.8	96.9	95.5	96.4	92.3	96.0	106.3	104.9	103.1	103.5	141.8
80	90.9	95.2	91.2	92.3	93.4	94.2	95.6	94.0	95.2	95.6	97.4	99.9	102.3	137.6
100	91.7	98.3	93.3	95.6	96.2	96.0	97.7	98.8	96.8	98.8	100.7	104.9	107.3	141.2
125	87.2	90.7	93.2	94.7	96.6	96.7	97.3	97.5	97.7	100.3	106.4	109.6	111.0	143.9
160	88.4	87.5	91.0	92.1	92.4	92.7	99.1	95.0	96.7	102.3	107.4	110.9	113.8	145.2
200	90.3	90.6	90.4	92.9	94.8	95.9	98.3	98.2	101.6	103.7	108.3	113.5	115.7	147.2
250	89.0	93.8	93.6	94.4	94.2	95.1	98.2	100.6	102.3	108.6	114.3	117.5	117.6	150.7
315	90.4	93.2	92.4	94.4	96.3	97.9	101.3	100.2	104.7	111.7	116.4	119.8	119.0	152.8
400	90.5	93.5	94.0	95.0	96.2	96.5	107.4	101.1	105.8	114.3	119.0	120.7	118.6	154.2
500	92.2	93.8	94.6	95.8	96.7	97.8	100.9	102.3	107.8	116.4	121.0	121.7	119.1	155.5
630	92.9	95.0	96.5	96.9	98.1	99.2	100.9	103.5	108.2	118.0	122.2	122.4	119.5	156.5
800	96.2	96.5	98.3	98.5	99.6	100.2	102.4	105.0	110.8	118.8	123.2	122.9	120.0	157.3
1000	103.7	103.0	102.0	101.4	101.4	102.0	103.9	106.3	111.7	118.8	123.9	123.9	120.3	158.1
1250	105.3	107.3	106.1	106.0	104.7	104.3	105.7	107.9	113.1	118.4	124.0	123.2	119.7	158.0
1600	109.3	108.2	108.4	106.3	106.0	105.1	106.4	108.7	114.1	117.7	124.3	121.5	117.2	157.7
2000	109.0	108.4	109.8	109.5	108.3	105.4	106.7	109.2	115.3	118.4	122.9	119.2	114.2	156.9
2500	105.5	107.3	108.5	109.6	110.7	110.1	107.8	110.4	116.2	120.8	122.0	117.4	112.9	157.2
3150	103.6	105.4	106.7	106.7	108.6	109.9	111.3	111.0	114.8	120.1	121.1	116.1	111.8	156.4
4000	102.0	103.2	105.6	106.2	106.9	107.9	109.5	111.6	115.0	118.4	118.7	114.2	110.5	155.0
5000	101.0	102.8	104.6	105.1	106.6	107.1	108.9	111.8	115.0	117.3	118.2	113.0	109.2	154.5
6300	99.5	102.0	103.6	104.6	106.5	106.2	108.0	111.4	113.9	115.8	116.4	111.9	107.4	153.5
8000	97.3	100.9	102.7	103.6	104.3	105.7	107.3	110.2	112.4	114.7	114.2	109.7	105.4	152.4
10000	96.0	100.2	101.7	103.0	104.5	105.5	106.7	109.4	111.8	114.1	113.4	108.9	104.9	152.3
12500	94.3	97.2	100.5	102.0	102.3	104.3	105.4	108.0	109.9	111.0	111.8	107.4	102.9	151.2
16000	91.3	95.6	97.6	100.1	101.3	102.1	103.4	105.7	108.0	109.0	109.8	105.1	100.2	150.5
20000	89.7	93.0	95.1	97.4	99.0	100.3	101.6	103.0	105.8	106.8	107.7	102.5	97.9	150.1
25000	86.5	90.6	92.7	94.8	96.7	98.8	100.5	102.5	104.9	106.2	102.4	97.7	95.1	150.6
31500	80.2	85.8	87.3	90.8	91.6	93.7	94.7	97.3	101.0	103.0	98.6	92.6	89.4	149.6
40000	76.9	83.5	84.8	87.2	89.3	90.4	92.5	95.1	99.3	102.7	97.6	90.3	85.4	152.3
50000	74.6	83.3	81.2	84.1	86.2	87.8	88.7	93.0	97.5	103.1	96.1	86.6	84.4	155.8
63000	73.5	84.3	78.0	80.1	83.2	84.9	86.3	92.1	97.5	103.6	96.6	85.5	82.1	161.2
80000	74.1	85.2	75.9	76.9	80.5	82.3	83.2	89.5	95.8	106.0	94.3	82.5	77.6	169.2

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CASPL 115.5 116.3 117.2 117.4 118.0 118.2 119.6 121.5 125.5 130.0 133.4 132.3 129.6 172.4  
PNL 128.0 129.0 130.1 130.7 131.6 131.8 133.3 134.5 138.3 143.0 145.1 142.3 139.1  
PNLT 128.0 129.8 130.1 130.7 131.6 131.8 134.4 135.0 138.3 143.0 145.1 142.3 139.1  
DBA 116.1 116.6 117.6 117.6 118.1 118.1 119.2 121.2 125.5 129.9 133.3 131.4 128.0

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH251	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FRINT =	LBS XNL =	RPM XNH =	RPM V8 = 1694.8 FPS	AE8 = 4.0 SQ IN	
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2562.9 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0227	TAPE = X0227C	TEST PT NO = 0227	NC = AE060	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0227 X0227F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.8	87.8	83.6	87.4	88.2	86.8	88.2	87.9	89.6	98.7	97.8	97.2	97.9	134.7
63	94.9	94.5	90.5	94.8	96.9	95.5	96.4	92.3	96.0	106.3	104.9	103.1	103.5	141.8
80	90.9	95.2	91.2	92.3	93.4	94.2	95.6	94.0	95.2	95.6	97.4	99.9	102.3	137.6
100	91.7	98.3	93.3	95.6	96.2	96.0	97.7	98.8	96.8	98.8	100.7	104.9	107.3	141.2
125	87.2	90.7	93.2	94.7	96.6	96.7	97.3	97.5	97.7	100.3	106.4	109.6	111.0	143.9
160	88.4	87.5	91.0	92.1	92.4	92.7	99.1	95.0	96.7	102.3	107.4	110.9	113.8	145.2
200	90.3	90.6	90.4	92.9	94.8	95.9	98.3	98.2	101.6	103.7	108.3	113.5	115.7	147.2
250	89.0	93.8	93.6	94.4	94.2	95.1	98.2	100.6	102.3	108.6	114.3	117.5	117.6	150.7
315	90.4	93.2	92.4	94.4	96.3	97.9	101.3	100.2	104.7	111.7	116.4	119.8	119.0	152.8
400	90.5	93.5	94.0	95.0	96.2	96.5	107.4	101.1	105.8	114.3	119.0	120.7	118.6	154.2
500	92.2	93.8	94.6	95.8	96.7	97.8	100.9	102.3	107.8	116.4	121.0	121.7	119.1	155.5
630	92.9	95.0	96.5	96.9	98.1	99.2	100.9	103.5	108.2	118.0	122.2	122.4	119.5	156.5
800	96.2	96.5	98.3	98.5	99.6	100.2	102.4	105.0	110.8	118.8	123.2	122.9	120.0	157.3
1000	103.7	103.0	102.0	101.4	101.4	102.0	103.9	106.3	111.7	118.8	123.9	123.9	120.3	158.1
1250	105.3	107.3	106.1	106.0	104.7	104.3	105.7	107.9	113.1	118.4	124.0	123.2	119.7	158.0
1600	109.3	108.2	108.4	106.3	106.0	105.1	106.4	108.7	114.1	117.7	124.3	121.5	117.2	157.7
2000	109.0	108.4	109.8	109.5	108.3	105.4	106.7	109.2	115.3	118.4	122.9	119.2	114.2	156.9
2500	105.5	107.3	108.8	109.6	110.7	110.1	107.8	110.4	116.2	120.8	122.0	117.4	112.9	157.2
3150	103.6	105.4	106.7	106.7	108.6	109.9	111.3	111.0	114.8	120.1	121.1	116.1	111.8	156.4
4000	102.0	103.2	105.6	106.2	106.9	107.9	109.5	111.6	115.0	118.4	118.7	114.2	110.5	155.0
5000	101.0	102.8	104.6	105.1	106.6	107.1	108.9	111.8	115.0	117.3	118.2	113.0	109.2	154.5
6300	99.5	100.0	103.6	104.6	106.5	106.2	108.0	111.4	113.9	115.8	116.4	111.9	107.4	153.5
8000	97.3	100.9	102.7	103.6	104.3	105.7	107.3	110.2	112.4	114.7	114.2	109.7	105.4	152.4
10000	96.0	100.2	101.7	103.0	104.5	105.5	106.7	109.4	111.8	114.1	113.4	108.9	104.9	152.3
12500	94.3	97.2	100.5	102.0	102.3	104.3	105.4	108.0	109.9	111.0	111.8	107.4	102.9	151.2
16000	91.3	95.6	97.6	100.1	101.3	102.1	103.4	105.7	108.0	109.0	109.8	105.1	100.2	150.5
20000	89.7	93.0	95.1	97.4	99.0	100.3	101.6	103.0	105.8	106.8	107.7	102.5	97.9	150.1
25000	86.5	90.6	92.7	94.8	96.7	98.8	100.5	102.5	104.9	106.2	102.4	97.7	95.1	150.6
31500	80.2	85.8	87.3	90.8	91.6	93.7	94.7	97.3	101.0	103.0	98.6	92.6	89.4	149.6
40000	76.9	83.5	84.8	87.2	89.3	90.4	92.5	95.1	99.3	102.7	97.6	90.3	85.4	152.3
50000	74.6	83.3	81.2	84.1	86.2	87.8	88.7	93.0	97.5	103.1	96.1	86.6	84.4	155.8
63000	73.5	84.3	78.0	80.1	83.2	84.9	86.3	92.1	97.5	103.6	96.6	85.5	82.1	161.2
80000	74.1	85.2	75.9	76.9	80.5	82.3	83.2	89.5	95.8	106.0	94.3	82.5	77.6	169.2
8ASPL	115.5	115.3	117.2	117.4	118.0	118.2	119.6	121.5	125.5	130.0	133.4	132.3	129.6	172.4
PNL	128.0	129.0	130.1	130.7	131.6	131.8	133.3	134.5	138.3	143.0	145.1	142.3	139.1	
PNLT	128.0	129.8	130.1	130.7	131.6	131.8	134.4	135.0	138.3	143.0	145.1	142.3	139.1	
DBA	194.5	205.5	196.8	198.0	201.4	203.2	204.2	210.3	216.4	226.3	215.0	203.4	198.8	

ORIGINAL PAGE IS  
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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL	=	ADH251	TEST DATE	=	08-23-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	0. FPS
IAPLHA	=	S859	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	78.00	PAMB HG	=	29.35	RELHUM	=	75.2 PCT
WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		NBFR	=	
FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1694.8 FPS	AE8	=	4.0 SQ IN			
FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2562.9 FPS	AE18	=	18.0 SQ IN			

RUNPT = 82F-ZER-0227 TAPE = X0227F TEST PT NO = 0227 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0227 X02271

ANGLES MEASURED FROM INLET, DEGREES

		40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.				
	FREQ														PWL			
	50	69.1	73.6	75.2	76.9	78.5	79.0	89.7	83.0	87.0	94.5	97.6	97.1	91.6	172.2			
	63	70.8	73.9	75.7	77.7	79.0	80.2	83.2	84.2	89.0	96.5	99.6	98.0	92.1	173.5			
	80	71.4	75.0	77.6	78.7	80.4	81.6	83.1	85.4	89.4	98.1	100.7	98.6	92.4	174.5			
	100	74.6	76.5	79.3	80.3	81.9	82.6	84.6	86.8	91.8	98.8	101.6	99.1	92.8	175.4			
	125	82.0	82.9	83.0	83.1	83.5	84.3	86.0	88.0	92.7	98.7	102.3	99.9	92.8	176.1			
	160	83.4	87.0	86.9	87.6	86.7	86.5	87.7	89.5	93.9	98.1	102.2	99.0	91.9	176.0			
	200	87.2	87.7	89.0	87.8	87.9	87.1	88.3	90.2	94.8	97.2	102.2	96.9	88.9	175.7			
	250	86.6	87.7	90.3	90.7	90.0	87.2	88.3	90.4	95.8	97.6	100.4	94.2	85.2	175.0			
	315	82.6	86.2	89.0	90.6	92.1	91.6	89.2	91.3	96.4	99.7	99.2	91.8	83.1	175.2			
	400	80.3	83.9	86.5	87.4	89.7	91.1	92.4	91.6	94.6	98.6	97.8	89.9	81.0	174.5			
	500	78.2	81.3	85.0	86.5	87.8	88.9	90.4	91.9	94.4	96.6	94.8	87.4	78.7	173.0			
	630	76.7	80.5	83.8	85.1	87.1	87.8	89.5	91.8	94.1	95.1	93.8	85.5	76.4	172.6			
	800	74.6	79.4	82.4	84.4	86.8	86.7	88.3	91.2	92.7	93.1	91.5	83.7	73.4	171.5			
	1000	72.0	77.9	81.3	83.2	84.5	86.0	87.5	89.8	91.0	91.7	89.0	80.9	70.3	170.4			
	1250	70.2	76.9	80.1	82.4	84.5	85.7	86.8	88.9	90.2	90.9	87.6	79.2	68.3	170.4			
	1600	67.7	73.3	78.4	81.1	82.1	84.3	85.1	87.1	87.8	87.1	85.1	76.3	64.0	169.2			
	2000	63.7	71.2	75.1	79.0	80.9	81.9	82.9	84.6	85.5	84.5	82.1	72.5	58.2	168.5			
	2500	60.3	67.3	71.8	75.6	78.1	79.6	80.7	81.2	82.5	81.1	78.3	67.0	51.1	168.1			
	3150	53.7	62.5	67.5	71.4	74.4	76.8	78.1	79.7	79.7	78.1	69.6	57.3	39.9	168.7			
	4000	41.2	52.9	58.3	64.2	66.3	68.8	69.4	70.6	72.0	70.1	59.6	43.2	19.7	167.7			
	5000	28.1	43.1	49.5	55.1	59.0	60.6	62.2	63.0	64.0	62.3	48.8	27.2		170.3			
	6300	8.1	28.7	33.9	41.2	45.8	48.1	48.3	50.1	50.2	48.5	29.6			173.8			
	8000		4.8	9.4	18.0	24.7	27.5	27.8	30.0	28.8	24.1				179.3			
	10000														187.3			
	12500																	
	16000																	
	20000																	
	25000																	
	31500																	
	40000																	
	50000																	
	63000																	
	80000																	
	GASPL	92.7	95.0	87.1	97.9	98.9	99.1	100.4	101.7	105.2	108.8	111.0	107.5	100.7	190.3			
	PNL	96.5	99.6	102.4	104.1	105.6	106.2	107.5	108.6	111.3	113.7	113.8	108.1	100.1				
	PNLT	96.5	100.1	102.4	104.6	105.6	106.2	107.5	108.6	111.3	114.3	113.8	108.1	100.1				
	DBA	85.1	88.5	91.5	93.2	94.8	95.6	96.7	98.5	100.6	102.2	101.6	95.1	86.6				
	MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9																	
	NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166																	
	VEHICL	=	ADH251	TEST DATE	=	08-23-82	LOCAT	=	C41 ANECH CH	CONFIG	=	2	MODEL	=	AX	FLTVEL	=	0. FPS
	IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	78.00	PAMB HG	=	29.35	RELHUM	=	75.2 PCT
	WIND DIR	=	DEG	WIND VEL	=	MPH	EXT DIST	=	2400.0 FT	EXT CONFIG	=	SL	MIKE HT	=		NBFR	=	
	FNIN1	=	LBS	XNL	=	RPM	XNH	=	RPM	V8	=	1694.8 FPS	AE8	=	4.0 SQ IN			
	FNRAMB	=	LBS	XNLR	=	RPM	XNHR	=	RPM	V18	=	2562.9 FPS	AE18	=	18.0 SQ IN			
	RUNPT = 82F-ZER-0227    TAPE = X02271    TEST PT NO = 0227    NC = AE060    CORR FAN SPEED =    RPM																	

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PIPER-03

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0228 X0228C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.5	87.6	83.3	84.1	84.0	82.6	86.2	86.6	89.1	95.7	96.3	92.7	99.4	133.0
63	90.2	91.7	89.5	87.1	90.9	88.2	91.9	88.0	93.0	103.8	88.2	92.1	100.3	137.5
80	91.7	95.7	91.7	93.3	92.9	93.5	94.6	93.8	94.7	93.6	96.2	98.1	103.3	137.2
100	90.5	95.8	91.0	93.3	94.4	93.8	96.2	96.8	94.8	95.3	98.7	102.7	106.8	139.4
125	87.9	89.7	92.0	94.2	94.8	94.5	96.1	95.7	94.7	97.0	103.7	107.8	110.5	142.3
160	86.7	83.0	89.0	89.6	89.9	89.7	96.1	92.3	93.5	98.0	104.9	108.1	112.3	143.0
200	88.1	87.1	86.4	88.2	90.0	91.4	95.3	94.7	98.1	98.4	104.6	110.0	113.9	144.4
250	85.0	87.8	88.3	89.9	90.0	91.3	94.5	96.6	98.3	103.6	110.5	114.0	114.6	147.2
315	86.4	87.9	88.4	89.9	91.3	92.7	97.6	97.0	100.4	107.2	112.9	116.3	116.0	149.3
400	87.0	88.8	89.6	90.5	91.9	92.5	103.4	97.3	101.5	109.3	115.2	117.7	114.8	150.5
500	88.2	89.5	90.6	92.0	93.2	93.8	96.7	98.6	103.6	111.9	117.8	117.9	112.8	151.6
630	88.2	90.2	92.2	93.1	94.1	95.0	97.6	100.0	104.5	114.0	118.7	117.4	110.8	152.1
800	90.9	91.5	92.7	94.0	95.4	96.0	98.9	102.0	107.0	114.6	120.2	116.6	108.0	152.9
1000	97.4	96.2	96.5	96.4	96.9	97.2	100.1	103.3	108.5	114.8	119.9	115.9	106.3	152.7
1250	104.3	104.6	101.8	101.0	100.0	99.8	102.2	104.4	109.6	115.2	120.3	114.5	105.7	153.1
1600	106.0	106.9	107.4	106.1	102.7	101.3	103.7	105.7	111.4	114.9	120.3	112.7	105.5	153.4
2000	104.6	105.9	107.3	108.5	107.8	104.2	104.4	107.2	111.8	115.1	118.9	112.0	105.0	153.2
2500	101.8	103.3	105.3	106.4	108.4	108.3	107.2	109.1	113.5	118.0	118.8	112.1	105.6	154.2
3150	99.9	101.4	102.2	103.0	105.1	107.6	110.5	109.5	113.0	117.9	118.9	111.6	104.8	154.1
4000	98.0	99.0	101.1	101.9	103.2	104.4	108.0	110.6	113.5	116.7	116.9	109.7	103.5	152.9
5000	98.3	99.0	100.4	101.1	102.1	103.3	106.9	111.0	113.7	115.6	115.9	108.2	102.2	152.4
6300	97.2	98.0	99.8	100.6	102.3	102.7	106.5	110.7	112.4	114.3	114.4	106.9	101.1	151.5
8000	95.3	97.6	98.7	99.6	100.1	102.2	105.6	109.4	111.9	112.9	112.2	105.0	99.4	150.6
10000	94.0	96.7	98.2	99.8	100.8	102.3	105.0	108.2	111.1	111.9	110.9	104.6	98.2	150.3
12500	91.9	93.7	96.5	99.0	99.1	100.9	103.7	107.2	109.1	109.8	108.8	102.6	96.9	149.3
16000	89.1	92.7	94.1	96.9	98.1	98.6	102.2	105.0	107.5	107.6	107.1	100.4	94.2	148.8
20000	87.3	89.6	91.5	94.3	95.6	97.4	99.7	102.1	105.1	105.1	105.1	97.6	92.5	148.1
25000	84.1	87.0	89.0	92.1	93.4	95.7	98.6	101.1	103.8	104.4	101.8	95.4	89.7	149.0
31500	77.6	81.5	83.7	87.5	87.5	90.4	92.6	95.7	99.7	100.4	97.5	90.3	83.0	147.6
40000	73.8	78.0	80.5	82.6	84.2	86.6	89.9	92.8	97.5	99.2	95.8	87.1	79.3	149.5
50000	70.0	74.3	76.1	78.7	80.9	83.1	85.3	89.9	96.0	97.6	93.6	83.6	74.8	151.8
63000	65.7	71.5	71.5	73.8	75.8	78.7	80.6	87.1	94.7	98.6	94.5	79.1	68.9	157.0
80000	61.6	72.0	68.8	67.1	70.1	73.0	75.4	83.4	93.8	97.8	91.2	73.2	61.8	162.5

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OASPL 112.2 113.2 114.0 114.6 115.0 115.3 117.8 120.0 123.4 127.1 130.1 126.8 123.6 167.6  
PNL 124.4 125.5 126.6 127.5 128.7 129.0 131.8 133.0 136.2 140.3 142.4 137.2 132.1  
PNLT 124.4 126.0 126.6 127.5 128.7 129.0 132.8 133.0 136.2 140.3 142.4 137.2 132.1  
DBA 112.7 113.7 114.5 114.9 115.3 115.4 117.5 119.7 123.2 127.1 130.0 125.1 119.1

## NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH267 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 75.50 PAMB HG = 29.45 RELHUM = 76.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.4 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2576.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0228 TAPE = X0228C TEST PT NO = 0228 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0228 X0228F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	92.4	93.9	93.1	93.0	91.5	91.3	92.6	93.0	97.0	102.9	108.0	111.9	113.4	145.5
315	92.4	93.9	93.0	93.0	93.1	92.9	96.2	94.2	98.3	105.3	110.8	114.0	113.7	147.1
400	94.1	94.3	93.4	93.3	93.7	92.8	102.1	94.6	101.5	109.1	114.7	116.0	114.3	149.6
500	94.5	95.1	94.4	93.9	95.1	94.1	95.9	96.7	103.2	112.3	117.0	117.6	115.4	151.5
630	95.9	95.9	95.5	95.5	96.1	95.4	97.0	98.4	106.0	113.4	119.5	118.7	116.1	153.2
800	95.8	96.6	97.2	96.6	97.4	96.5	98.2	100.4	108.0	114.3	120.1	119.4	117.0	153.9
1000	98.6	97.9	97.8	97.6	98.5	97.9	99.6	101.8	109.0	114.5	120.3	117.9	116.5	153.7
1250	103.3	101.0	100.2	99.0	101.8	100.6	101.8	102.8	110.9	114.3	120.5	116.4	116.5	153.8
1600	111.4	110.5	106.4	104.0	104.7	102.4	103.4	104.3	111.7	114.9	119.4	116.0	116.4	154.1
2000	112.8	112.5	111.6	109.1	110.1	105.5	104.4	106.1	113.6	118.0	119.5	116.4	117.4	155.7
2500	110.4	111.0	111.6	111.8	111.4	109.9	107.5	108.3	113.5	118.2	120.0	116.2	117.0	156.1
3150	109.4	109.9	110.8	110.6	108.3	109.6	111.2	109.0	114.5	117.4	118.3	114.5	115.7	155.3
4000	107.4	108.1	107.8	107.4	106.9	107.0	109.3	110.7	114.7	116.2	117.1	112.8	114.3	154.2
5000	105.6	105.7	106.8	106.6	106.1	106.3	108.4	111.1	113.5	115.1	115.7	111.6	113.4	153.3
6300	105.7	105.7	106.2	105.9	106.3	105.7	108.0	110.8	113.0	113.7	113.5	109.6	111.5	152.5
8000	104.5	104.6	105.5	105.3	104.1	105.2	107.1	109.5	112.4	112.9	112.4	109.5	110.5	152.0
10000	102.4	104.0	104.2	104.2	104.8	105.3	106.6	108.4	111.1	111.4	111.0	108.3	110.1	151.5
12500	100.9	102.8	103.5	104.0	103.7	103.9	105.6	107.8	109.9	109.5	109.5	106.3	107.6	151.0
16000	101.0	101.6	103.0	103.8	102.7	101.6	104.0	105.4	107.9	107.6	108.1	104.1	106.5	150.7
20000	97.8	100.2	100.2	101.4	100.2	100.4	101.6	102.5	107.2	107.3	105.2	102.1	104.0	150.7
25000	95.4	96.4	96.9	98.1	98.0	98.7	100.5	101.5	103.5	103.7	101.1	96.9	96.6	150.0
31500	91.4	93.1	93.7	95.2	92.1	93.4	94.2	95.8	102.1	103.3	100.2	94.6	93.7	150.6
40000	84.1	86.7	87.5	89.7	88.8	89.6	91.4	92.8	101.0	102.1	98.4	91.4	89.5	152.5
50000	79.9	82.8	83.9	84.5	85.5	86.1	86.8	89.9	100.6	104.0	100.3	87.9	84.6	157.3
63000	75.2	78.2	78.6	79.6	80.4	81.7	82.0	87.1	101.2	104.7	98.4	83.5	78.9	162.7
80000	69.4	73.9	72.5	73.2	74.5	76.0	76.8	83.4	91.3	94.9	88.6	73.7	69.1	160.0

OASPL 118.9 119.0 118.8 118.3 118.0 117.3 118.5 119.7 124.1 127.1 130.1 128.0 127.6 168.9  
 PNL 131.1 131.2 131.5 131.2 130.9 130.2 131.6 132.0 136.5 139.6 141.8 138.9 139.3  
 PNLT 131.1 132.5 131.5 131.2 130.9 130.2 132.7 132.0 136.5 139.6 141.8 138.9 139.3  
 DBA 191.3 195.3 194.5 195.4 196.4 197.8 198.5 204.5 214.5 218.0 211.8 197.3 193.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH267 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 75.50 PAMB HG = 29.45 RELHUM = 76.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2576.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0228 TAPE = X0228F TEST PT NO = 0228 NC = AE060 CORR FAN SPEED = RPM

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OF POOR QUALITY

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0228 X02281

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.6	74.4	74.6	75.2	76.1	75.2	84.4	76.5	82.7	89.2	93.3	92.4	87.3	167.7
63	73.0	75.2	75.6	75.7	77.4	76.6	78.2	78.6	84.4	92.4	95.6	93.9	88.4	169.6
80	74.4	76.0	76.7	77.4	78.3	77.8	79.2	80.3	87.2	93.5	98.1	95.0	89.0	171.2
100	74.3	76.6	78.3	78.4	79.7	78.9	80.5	82.2	89.1	94.3	98.5	95.6	89.8	172.0
125	76.9	77.8	78.8	79.3	80.6	80.2	81.8	83.5	90.0	94.4	98.7	94.0	89.0	171.8
160	81.5	80.8	81.1	80.6	83.8	82.8	83.8	84.4	91.7	94.1	98.6	92.1	88.7	171.8
200	89.3	90.0	87.0	85.5	86.5	84.4	85.3	85.8	92.4	94.4	97.3	91.5	88.1	172.1
250	90.3	91.7	92.1	90.3	91.8	87.3	86.1	87.4	94.0	97.3	97.1	91.4	88.4	173.7
315	87.5	89.9	91.7	92.8	92.8	91.5	89.0	89.2	93.7	97.1	97.1	90.7	87.2	174.1
400	86.0	88.4	90.6	91.2	89.4	90.9	92.3	89.6	94.3	95.9	94.9	88.3	85.0	173.3
500	83.6	86.2	87.2	87.7	87.7	88.0	90.1	91.0	94.2	94.4	93.3	86.0	82.5	172.2
630	81.2	83.4	86.0	86.6	86.7	87.0	89.0	91.2	92.6	92.8	91.4	84.1	80.5	171.3
800	80.9	83.1	85.0	85.7	86.6	86.2	88.3	90.6	91.9	91.1	88.7	81.4	77.5	170.5
1000	79.2	81.6	84.1	84.9	84.3	85.5	87.3	89.1	91.0	90.0	87.1	80.6	75.4	170.0
1250	76.7	80.7	82.6	83.6	84.8	85.5	86.6	87.6	89.5	88.1	85.3	78.6	73.6	169.5
1600	74.2	79.0	81.4	83.1	83.5	83.8	85.3	86.9	87.8	85.6	82.9	75.2	68.7	169.0
2000	73.4	77.1	80.5	82.7	82.3	81.4	83.6	84.2	85.5	83.1	80.5	71.4	64.6	168.8
2500	68.4	74.5	76.8	79.6	79.2	79.7	80.6	80.7	83.8	81.6	75.8	66.7	57.1	168.8
3150	62.6	68.3	71.7	74.8	75.6	76.7	78.2	78.2	78.4	75.6	68.3	56.4	41.4	168.1
4000	52.4	60.2	64.6	68.6	66.8	68.5	68.9	69.1	73.1	70.5	61.2	45.2	24.0	168.6
5000	35.3	46.3	52.3	57.6	58.5	59.8	61.1	60.7	65.7	61.6	49.6	28.3		170.5
6300	13.3	28.2	36.6	41.6	45.1	46.5	46.4	47.0	53.3	49.4	33.7	0.7		175.4
8000			9.9	17.5	21.8	24.3	23.5	25.0	32.5	25.3	1.2			180.7
10000														178.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	95.8	97.6	98.5	98.8	99.0	98.3	99.2	99.8	103.6	105.8	107.6	103.2	98.5	186.9
PNL	100.8	103.1	104.6	105.6	105.9	105.4	106.7	107.3	110.2	111.3	111.0	104.7	100.4	
PNLT	100.8	103.8	105.2	105.6	106.4	105.4	106.7	107.3	110.2	112.0	111.9	105.9	100.4	
DBA	90.0	92.4	94.2	95.0	95.1	95.1	96.5	97.6	99.9	100.0	98.9	92.4	88.6	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CCAN, C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH267 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 75.50 PAMB HG = 29.45 RELHUM = 76.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2576.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0228 TAPE = X02281 TEST PT NO = 0228 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0229 X0229C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.5	88.8	88.1	87.6	89.2	87.1	87.5	87.4	90.1	98.7	98.0	97.7	98.6	135.1
63	95.7	96.0	95.7	95.8	97.9	95.7	95.4	95.3	96.5	106.5	104.9	103.9	104.8	142.4
80	91.7	95.2	91.5	93.0	93.6	95.0	96.1	94.0	95.7	95.8	98.2	100.1	102.8	138.0
100	92.0	98.3	94.0	96.3	96.9	96.3	97.9	99.1	97.5	99.3	101.7	105.2	108.3	141.7
125	87.7	90.4	94.0	95.4	97.1	97.2	97.6	98.2	97.7	101.3	106.7	110.3	111.8	144.5
160	88.9	88.5	92.2	92.3	92.6	93.2	99.4	96.3	97.2	103.0	108.7	111.6	114.3	145.9
200	90.6	91.4	92.1	93.4	95.0	95.9	99.0	98.7	101.9	104.7	109.6	114.0	116.4	147.9
250	89.5	93.8	94.1	95.4	95.0	95.3	98.7	101.6	102.6	109.1	115.3	118.5	118.4	151.6
315	91.1	93.7	93.7	94.9	96.6	97.9	102.1	100.7	104.9	112.7	117.4	120.1	119.0	153.2
400	91.5	94.0	95.0	95.7	97.2	97.0	107.7	102.1	106.0	114.8	120.0	121.4	119.1	154.9
500	92.7	94.3	95.6	96.5	97.4	98.0	101.7	102.8	108.1	117.4	121.8	121.7	119.3	156.0
630	93.2	95.2	97.2	97.6	99.1	99.7	101.4	104.5	108.7	119.0	122.9	122.6	120.3	157.1
800	96.9	97.7	98.3	99.0	99.9	101.0	102.9	105.8	111.3	119.6	124.2	123.1	120.8	158.0
1000	107.4	105.0	103.0	102.4	102.1	102.0	103.9	106.8	113.0	119.6	124.9	124.4	121.3	158.9
1250	108.0	109.1	107.8	107.0	105.5	104.6	106.0	108.1	113.1	118.9	124.5	123.0	119.5	158.3
1600	111.8	109.9	110.6	109.1	107.7	105.3	106.7	109.2	114.4	118.7	124.6	121.5	117.7	158.2
2000	110.5	109.7	111.6	111.5	110.8	107.7	107.9	110.0	115.8	120.9	123.9	119.2	115.0	158.2
2500	106.5	108.8	110.1	110.4	112.0	111.6	109.3	111.1	116.7	121.3	122.3	117.6	113.4	157.7
3150	105.4	107.2	108.2	107.7	109.6	111.4	112.8	111.7	115.5	120.6	121.1	115.6	111.6	156.9
4000	103.5	104.5	106.8	107.2	108.4	108.9	110.8	112.9	115.2	118.9	118.9	114.0	110.0	155.5
5000	102.8	104.8	106.4	106.3	107.3	108.1	109.7	112.8	115.2	118.1	118.7	113.0	108.5	155.1
6300	101.5	103.2	105.6	105.1	107.5	107.7	109.5	112.4	114.2	116.5	116.9	110.9	106.9	154.2
8000	99.3	102.6	103.9	105.4	105.8	107.2	107.8	111.2	113.1	115.4	115.0	109.2	104.9	153.2
10000	97.8	101.4	103.7	104.3	105.7	107.0	108.2	110.2	112.1	114.6	113.4	108.4	104.2	152.9
12500	95.8	99.2	101.8	103.2	103.6	105.1	106.6	108.3	110.4	112.2	111.8	106.6	101.9	151.8
16000	93.0	97.4	99.1	101.6	102.8	103.3	104.6	107.0	108.2	109.5	110.3	104.1	99.4	151.2
20000	90.9	94.5	97.1	98.9	100.3	101.8	103.1	103.7	106.3	107.3	108.2	102.3	98.2	150.8
25000	87.8	92.4	95.2	96.8	99.0	99.8	101.5	103.0	105.7	107.2	106.5	100.1	93.6	152.0
31500	81.7	87.3	89.3	92.3	93.4	95.5	96.5	98.5	102.3	103.7	102.8	96.4	87.9	151.3
40000	78.4	84.5	87.0	88.7	91.0	92.2	94.0	96.6	101.1	103.2	102.3	93.2	85.1	154.0
50000	75.1	81.6	84.2	86.1	88.5	90.8	91.2	94.2	99.8	104.1	101.4	92.7	81.6	157.9
63000	74.0	79.8	82.8	83.3	85.5	88.2	88.1	93.4	99.7	105.3	101.5	90.1	77.9	163.5
80000	73.4	78.9	81.7	79.9	82.2	85.3	86.2	91.7	98.1	104.8	102.3	87.3	74.6	169.8

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OSPL 117.5 117.8 118.8 118.8 119.3 119.4 120.6 122.3 125.9 130.8 134.1 132.5 130.1 173.2  
PNL 129.6 130.4 131.5 131.7 132.8 133.0 134.4 135.4 138.8 143.7 145.6 142.4 139.4  
PNLT 131.2 131.3 131.5 131.7 132.8 133.0 135.4 135.4 138.8 143.7 145.6 142.4 139.4  
DBA 118.2 118.2 119.2 119.0 119.5 119.4 120.3 122.0 125.9 130.8 133.9 131.6 128.4

NASA DUAL FLOW SHOCK CELL/CGAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH252 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1703.3 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2611.1 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-0229 TAPE = X0229C TEST PT NO = 0229 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0229 X0229F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	89.5	88.8	88.1	87.6	89.2	87.1	87.5	87.4	90.1	98.7	98.0	97.7	98.6	135.1
63	95.7	96.0	95.7	95.8	97.9	95.7	96.4	95.3	96.5	106.5	104.9	103.9	104.8	142.4
80	91.7	95.2	91.5	93.0	93.6	95.0	96.1	94.0	95.7	95.8	98.2	100.1	102.8	138.0
100	92.0	96.3	94.0	96.3	96.9	96.3	97.9	99.1	97.5	99.3	101.7	105.2	108.3	141.7
125	87.7	90.4	94.0	95.4	97.1	97.2	97.6	98.2	97.7	101.3	106.7	110.3	111.8	144.5
160	88.9	88.5	92.2	92.3	92.6	93.2	99.4	96.3	97.2	103.0	108.7	111.6	114.3	145.9
200	90.6	91.4	92.1	93.4	95.0	95.9	99.0	98.7	101.9	104.7	109.6	114.0	116.4	147.9
250	89.5	93.8	94.1	95.4	95.0	95.3	98.7	101.6	102.6	109.1	115.3	118.5	118.4	151.6
315	91.1	93.7	93.7	94.9	96.6	97.9	102.1	100.7	104.9	112.7	117.4	120.1	119.0	153.2
400	91.5	94.0	95.0	95.7	97.2	97.0	107.7	102.1	106.0	114.8	120.0	121.4	119.1	154.9
500	92.7	94.3	95.6	96.5	97.4	98.0	101.7	102.8	108.1	117.4	121.8	121.7	119.3	156.0
630	93.2	95.2	97.2	97.6	99.1	99.7	101.4	104.5	108.7	119.0	122.9	122.6	120.3	157.1
800	96.9	97.7	98.5	99.0	99.9	101.0	102.9	105.8	111.3	119.6	124.2	123.1	120.8	158.0
1000	107.4	105.0	103.0	102.4	102.1	102.0	103.9	106.8	113.0	119.6	124.9	124.4	121.3	158.9
1250	108.0	109.1	107.8	107.0	105.5	104.6	106.0	108.1	113.1	118.9	124.5	123.0	119.5	158.3
1600	111.8	109.9	110.6	109.1	107.7	105.3	106.7	109.2	114.4	118.7	124.6	121.5	117.7	158.2
2000	110.5	109.7	111.6	111.5	110.8	107.7	107.9	110.0	115.8	120.9	123.9	119.2	115.0	158.2
2500	106.5	108.8	110.1	110.4	112.0	111.6	109.3	111.1	116.7	121.3	122.3	117.6	113.4	157.7
3150	105.4	107.2	108.2	107.7	109.6	111.4	112.8	111.7	115.5	120.6	121.1	115.6	111.6	156.9
4000	103.5	104.5	106.8	107.2	108.4	108.9	110.8	112.9	115.2	118.9	118.9	114.0	110.0	155.5
5000	102.8	104.8	106.4	106.3	107.3	108.1	109.7	112.8	115.2	118.1	118.7	113.0	108.5	155.1
6300	101.5	103.2	105.6	106.1	107.5	107.7	109.5	112.4	114.2	116.5	116.9	110.9	106.9	154.2
8000	99.3	102.6	103.9	105.4	105.8	107.2	107.8	111.2	113.1	115.4	115.0	109.2	104.9	153.2
10000	97.8	101.4	103.7	104.3	105.7	107.0	108.2	110.2	112.1	114.6	113.4	108.4	104.2	152.9
12500	95.8	99.2	101.8	103.2	103.6	105.1	106.6	108.3	110.4	112.2	111.8	106.6	101.9	151.8
16000	93.0	97.4	99.1	101.6	102.8	103.3	104.6	107.0	108.2	109.5	110.3	104.1	99.4	151.2
20000	90.9	94.5	97.1	98.9	100.3	101.8	103.1	103.7	106.3	107.3	108.2	102.3	98.2	150.8
25000	87.8	92.4	95.2	96.8	99.0	99.8	101.5	103.0	105.7	107.2	106.5	100.1	93.6	152.0
31500	81.7	87.3	89.3	92.3	93.4	95.5	96.5	98.5	102.3	103.7	102.8	96.4	87.9	151.3
40000	78.4	84.5	87.0	88.7	91.0	92.2	94.0	96.6	101.1	103.2	102.3	93.2	85.1	154.0
50000	75.1	81.6	84.2	86.1	88.5	90.8	91.2	94.2	99.8	104.1	101.4	92.7	81.6	157.9
63000	74.0	79.8	82.8	83.3	85.5	88.2	88.1	93.4	99.7	105.3	101.5	90.1	77.9	163.5
80000	73.4	78.9	81.7	79.9	82.2	85.3	86.2	91.7	98.1	104.8	102.3	87.3	74.6	169.8
CASPL	117.5	117.8	118.8	118.8	119.3	119.4	120.6	122.3	125.9	130.8	134.1	132.5	130.1	173.2
PNL	129.6	130.4	131.5	131.7	132.8	133.0	134.4	135.4	138.8	143.7	145.6	142.4	139.4	
PNLT	131.2	131.3	131.5	131.7	132.8	133.0	135.4	135.4	138.8	143.7	145.6	142.4	139.4	
DBA	193.9	199.5	202.3	201.0	203.2	206.2	207.0	212.4	218.8	225.3	222.7	208.2	195.6	

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH252 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1703.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2611.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0229 TAPE = X0229F TEST PT NO = 0229 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0229 X02291

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.1	74.1	76.2	77.6	79.5	79.5	90.0	84.0	87.2	95.0	98.6	97.8	92.1	172.9
63	71.3	74.4	76.7	78.4	79.7	80.5	84.0	84.7	89.2	97.5	100.3	98.0	92.3	174.0
80	71.7	75.3	78.4	79.5	81.4	82.1	83.6	86.4	89.9	99.1	101.4	98.9	93.2	175.2
100	75.4	77.7	79.6	80.8	82.1	83.4	85.1	87.6	92.3	99.6	102.6	99.3	93.5	176.1
125	85.8	84.9	84.0	84.1	84.3	84.3	86.0	88.5	94.0	99.5	103.3	100.4	93.8	176.9
160	88.1	88.8	88.7	88.6	87.5	86.7	88.0	89.7	93.9	98.6	102.7	98.7	91.6	176.3
200	89.7	89.5	91.3	90.5	89.6	87.4	88.5	90.7	95.0	98.2	102.4	96.9	89.4	176.2
250	88.1	88.9	92.0	92.7	92.5	89.5	89.6	91.2	96.3	100.1	101.4	94.2	86.0	176.2
315	83.6	87.7	90.2	91.3	93.4	93.1	90.7	92.1	96.9	100.2	99.4	92.1	83.6	175.8
400	82.0	85.7	88.0	88.4	90.7	92.6	93.9	92.4	95.3	99.1	97.8	89.4	80.8	174.9
500	79.7	82.6	86.3	87.5	89.3	89.9	91.6	93.2	94.7	97.1	95.1	87.2	78.2	173.5
630	78.5	82.5	85.5	86.4	87.9	88.8	90.2	92.8	94.4	95.8	94.3	85.5	75.7	173.2
800	76.6	80.6	84.4	85.9	87.8	88.2	89.8	92.2	93.0	93.9	92.0	82.7	72.9	172.2
1000	74.0	79.7	82.5	85.0	86.0	87.5	88.0	90.8	91.7	92.5	89.7	80.4	69.8	171.2
1250	72.0	78.2	82.1	83.7	85.8	87.2	88.3	89.6	90.4	91.4	87.6	78.7	67.6	170.9
1600	69.2	75.3	79.7	82.3	83.3	85.0	86.4	87.4	88.3	88.4	85.1	75.6	63.0	169.8
2000	65.4	72.9	76.6	80.5	82.4	83.1	84.2	85.8	85.8	85.0	82.6	71.5	57.5	169.2
2500	61.5	68.8	73.8	77.1	79.3	81.1	82.2	81.9	83.0	81.6	78.8	66.8	51.3	168.8
3150	55.0	64.2	70.0	73.4	76.6	77.8	79.1	79.6	80.5	79.1	73.7	59.6	38.4	170.1
4000	42.7	54.4	60.3	65.7	68.0	70.6	71.1	71.9	73.3	70.9	63.8	47.0	18.2	169.3
5000	29.6	44.1	51.8	56.6	60.7	62.4	63.7	64.5	65.8	62.8	53.6	30.1		172.1
6300	8.6	26.9	36.9	43.2	48.1	51.1	50.8	51.4	52.5	49.5	34.9	5.5		175.9
8000		0.3	14.1	21.2	27.0	30.8	29.6	31.3	31.1	25.9	4.4			181.6
10000						1.6	0.8	1.2						187.8
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OF POOR QUALITY

CASPL	94.9	96.6	98.7	99.4	100.3	100.4	101.4	102.5	105.6	109.7	111.6	107.7	101.2	191.1
PNL	98.4	101.0	104.1	105.4	106.9	107.5	108.7	109.4	111.8	114.5	114.4	108.2	100.5	
PNLT	99.3	101.5	104.1	105.4	106.9	108.0	108.7	110.0	111.8	115.0	115.0	108.2	100.5	
DBA	86.9	90.1	93.2	94.5	96.1	96.9	97.9	99.4	101.0	102.9	102.0	94.9	86.8	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH252	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =

FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1703.3 FPS	AE8 = 4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2611.1 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0229 TAPE = X02291 TEST PT NO = 0229 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0230 X0230C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	90.0	87.6	84.1	86.6	86.2	85.3	86.2	87.9	88.1	94.9	96.3	95.7	100.4	133.6
63	91.7	91.0	88.7	91.6	91.9	91.2	92.9	92.8	92.7	100.5	98.4	97.4	101.5	137.1
80	91.9	95.7	92.0	93.8	93.1	94.2	95.1	94.0	95.0	94.6	97.2	98.6	103.8	137.7
100	91.0	96.3	91.5	94.1	95.2	94.3	96.9	97.3	95.5	96.1	99.2	103.4	107.1	140.0
125	88.7	90.2	92.5	94.2	95.3	95.2	96.6	97.0	95.7	97.8	104.2	108.6	111.0	142.9
160	87.7	83.7	89.7	90.6	90.4	90.7	96.6	93.3	94.2	99.3	106.2	109.6	112.8	143.9
200	88.8	87.4	87.1	89.2	90.5	91.9	95.8	95.9	98.6	99.7	105.6	110.8	114.7	145.1
250	86.0	88.6	89.1	90.6	90.7	92.1	95.2	97.6	99.1	104.6	111.5	115.0	118.6	148.1
315	86.4	88.2	88.2	90.6	92.1	93.4	97.8	97.5	101.4	108.0	113.9	116.8	116.5	149.9
400	87.2	89.3	90.5	91.5	92.4	92.5	103.9	98.1	102.3	110.1	116.5	118.2	115.6	151.3
500	88.7	89.8	91.3	93.3	93.7	94.3	97.4	99.1	104.1	113.1	118.5	118.4	113.6	152.3
630	89.7	90.2	93.2	93.9	94.4	95.5	97.6	100.3	105.2	115.3	120.2	117.9	110.8	153.2
800	92.9	92.2	94.2	95.0	96.1	96.5	99.4	102.5	107.7	115.6	121.5	116.6	108.5	153.8
1000	100.9	98.2	98.5	97.6	97.9	98.2	100.1	103.8	109.5	116.3	121.2	115.9	106.5	153.8
1250	106.8	107.6	105.1	103.0	100.7	100.3	102.7	105.1	110.6	116.2	121.8	114.5	106.5	154.4
1600	107.8	108.7	110.1	109.6	106.2	102.8	104.4	106.7	112.6	116.4	122.1	113.2	105.7	155.1
2000	106.0	106.9	109.1	110.5	110.6	106.4	105.4	108.0	113.6	117.1	120.9	113.0	105.2	155.0
2500	103.5	104.3	105.8	107.1	108.9	109.8	108.7	109.6	114.2	118.8	119.5	112.1	105.4	154.9
3150	102.1	103.2	104.4	104.7	105.1	107.4	111.5	110.5	113.8	118.6	119.1	112.3	105.3	154.7
4000	100.3	101.0	103.1	104.2	104.7	104.6	108.3	111.6	114.2	117.2	117.7	110.2	104.0	153.7
5000	99.8	100.8	102.4	103.1	104.1	104.1	107.4	111.5	114.2	115.8	116.7	109.0	102.7	153.0
6300	98.2	100.2	101.6	102.3	104.0	104.0	106.8	110.4	113.2	115.0	114.9	107.4	100.9	152.1
8000	96.5	99.1	100.2	101.9	102.1	103.4	105.9	108.9	112.6	113.7	113.2	105.0	100.4	151.3
10000	95.5	98.2	99.2	101.5	102.0	103.5	105.5	108.7	111.6	112.9	112.1	104.6	98.7	151.1
12500	93.9	95.2	97.8	100.2	99.9	102.1	104.2	107.1	109.9	110.0	110.0	102.9	96.7	149.9
16000	90.8	94.5	95.9	97.9	99.1	99.9	102.7	105.3	108.0	108.1	108.3	100.4	94.7	149.4
20000	88.5	90.6	93.0	95.8	96.9	98.1	100.7	102.6	105.9	105.6	106.1	98.1	93.3	148.9
25000	85.6	89.0	91.0	93.9	95.1	96.5	99.1	100.9	104.5	104.4	102.6	95.7	89.7	149.4
31500	78.9	83.0	84.5	89.0	89.0	91.4	92.9	95.9	99.7	101.7	98.0	90.0	83.3	148.2
40000	75.8	79.5	82.2	85.1	86.0	88.3	90.4	93.3	98.5	100.5	96.8	87.1	80.3	150.6
50000	71.0	75.5	77.4	80.5	82.4	84.6	86.3	89.9	97.0	100.6	94.1	83.6	75.3	153.6
63000	66.0	72.5	73.0	76.3	78.0	80.7	81.9	88.1	96.2	101.6	94.0	79.1	69.9	159.1
80000	62.1	72.3	70.1	71.8	74.4	76.3	76.4	84.4	93.5	102.8	92.7	73.7	61.8	166.1

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CASPL 114.0 114.9 115.9 116.5 116.5 116.3 118.4 120.5 124.2 128.0 131.3 127.2 124.2 169.7  
PNL 125.9 126.8 128.3 129.3 129.7 130.0 132.5 133.7 137.0 141.2 143.1 137.7 132.5  
PNLT 125.9 127.3 129.3 129.3 129.7 130.0 133.6 133.7 137.0 141.2 143.1 137.7 132.5  
DBA 114.6 115.4 116.5 117.0 116.9 116.3 118.3 120.2 124.1 128.1 131.2 125.4 119.6

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH268 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 75.50 PAMB HQ = 29.45 RELHUM = 76.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1706.7 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2603.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0230 TAPE = X0230C TEST PT NO = 0230 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0230 X0230F

ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50														
63														
80														
100														
125														
160														
200														
250	93.3	94.6	93.7	93.8	92.2	92.1	93.3	94.0	98.0	103.6	109.0	112.4	113.9	146.1
315	93.3	94.6	93.7	93.8	93.9	93.6	96.5	94.7	99.0	106.0	112.0	114.5	114.4	147.9
400	94.1	94.5	93.1	94.0	94.2	92.8	102.6	95.3	102.0	110.4	115.5	116.6	115.1	150.4
500	94.6	95.5	95.4	94.8	95.6	94.6	96.7	97.2	103.9	113.7	118.8	118.5	116.0	152.8
630	96.4	96.2	96.3	96.8	96.3	95.9	96.9	98.6	106.6	114.2	120.6	118.5	116.5	153.8
800	97.3	96.6	98.2	97.4	98.1	97.0	98.6	100.7	108.7	115.4	121.1	119.2	117.1	154.5
1000	98.7	98.1	98.9	98.3	99.5	98.9	99.5	102.1	109.8	115.3	121.6	117.8	117.2	154.6
1250	107.8	103.8	102.7	100.5	102.6	101.1	102.2	103.4	111.9	115.5	121.8	116.5	116.5	154.8
1600	114.1	113.7	109.8	106.2	108.8	103.9	104.1	105.2	113.1	116.5	121.0	116.6	116.3	155.7
2000	117.8	117.0	116.5	114.0	113.1	107.7	105.3	106.7	114.1	118.5	120.0	116.0	116.9	157.5
2500	112.6	112.8	114.0	114.2	111.9	111.4	109.0	108.6	114.3	119.0	120.2	116.9	117.5	157.0
3150	111.1	110.9	111.3	111.3	108.3	109.4	112.2	110.0	115.2	117.9	119.0	114.9	116.2	155.9
4000	109.7	109.8	110.0	109.1	108.4	107.2	109.5	111.6	115.2	116.5	117.9	113.6	114.8	155.0
5000	107.8	107.7	108.8	108.9	108.1	107.1	108.9	111.7	114.2	115.6	116.0	111.8	112.8	154.0
6300	107.2	107.5	108.2	107.9	108.0	107.0	108.2	110.5	113.8	114.5	114.6	109.7	112.6	153.4
8000	105.5	106.8	107.2	107.0	106.1	106.4	107.3	109.0	112.8	113.8	113.5	109.2	110.7	152.7
10000	103.7	105.5	105.7	106.4	106.0	106.5	107.0	108.8	111.6	111.3	111.9	108.0	109.3	152.1
12500	102.4	104.3	104.5	105.8	103.9	105.1	105.8	107.3	110.2	109.9	110.6	106.0	107.8	151.5
16000	100.2	100.8	102.5	104.0	103.2	102.9	104.3	105.5	108.7	108.1	109.1	104.5	107.3	151.2
20000	96.8	99.6	100.2	101.3	101.5	101.1	102.6	103.0	107.8	107.2	105.8	102.2	103.6	151.1
25000	96.6	97.4	98.4	99.6	99.7	99.5	101.0	101.2	103.5	105.0	101.6	96.6	96.8	150.7
31500	92.9	95.1	95.7	97.0	93.6	94.4	94.4	96.0	103.1	104.6	101.2	94.6	94.7	151.7
40000	85.4	88.2	88.3	91.2	90.6	91.3	91.9	93.3	102.0	105.0	98.9	91.4	90.0	154.2
50000	81.9	84.3	85.6	87.0	87.0	87.6	87.8	89.8	102.1	107.0	99.8	87.9	85.6	159.4
63000	76.2	79.4	79.8	81.3	82.6	83.7	83.3	88.1	100.9	109.7	99.9	84.0	78.9	166.3
80000	69.7	74.9	74.0	75.7	79.0	79.3	77.8	84.4	91.1	99.9	90.1	74.2	69.1	163.5
DATA	122.0	121.6	121.4	120.6	119.5	118.2	119.1	120.1	124.8	127.9	131.1	128.2	127.9	171.0
PNL	134.6	134.1	133.9	133.4	132.0	131.1	132.4	132.7	137.2	140.3	142.5	139.3	139.7	
PNLT	136.1	135.4	135.4	133.4	132.0	131.1	133.4	132.7	137.2	140.3	142.5	139.3	139.7	
DBA	191.9	196.4	196.0	197.6	200.2	200.6	199.5	205.4	214.3	223.0	213.2	197.7	193.2	
MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166														
VEHICL	= ADH268		TEST DATE = 08-24-82		LOCAT = C41 ANECH CH		CONFIG = 2		MODEL = AX		FLTVEL = 400. FPS			
1APLHA	= SB59		LEGA = NO		PWL AREA = FULL SPHERE		TAMB F = 75.50		PAMB HG = 29.45		RELHUM = 76.4 PCT			
WIND DIR			DEG WIND VEL = MPH		EXT DIST = 40.0 FT		EXT CONFIG = ARC		MIKE HT =		NBFR =			
FNIN1	= LBS XNL		= RPM		XNH = RPM		V8 = 1706.7 FPS		AE8 = 4.0 SQ IN					
FNRAMB	= LBS XNLR		= RPM		XNHR = RPM		V18 = 2603.5 FPS		AE18 = 18.0 SQ IN					
RUNPT = 82F-400-0230 TAPE = X0230F TEST PT NO = 0230 NC = AE050 CORR FAN SPEED = RPM														

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OF POOR QUALITY

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P1185-03

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0230 X02301

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	72.6	74.7	74.3	75.9	76.5	75.2	84.9	77.3	83.2	90.5	94.1	93.0	88.1	168.4
63	73.2	75.6	76.5	76.7	77.9	77.1	79.0	79.1	85.1	93.8	97.4	94.9	89.0	170.8
80	74.9	76.2	77.4	78.6	78.6	78.3	79.2	80.4	87.7	94.2	99.1	94.8	89.4	171.8
100	75.8	76.6	79.3	79.2	80.3	79.4	80.9	82.5	89.8	95.4	99.5	95.3	89.9	172.5
125	78.0	78.0	79.9	80.1	81.7	81.2	81.7	83.8	90.8	95.2	99.9	93.8	89.7	172.6
160	85.9	83.5	83.5	82.1	84.6	83.3	84.2	85.0	92.7	95.3	100.0	92.3	88.7	172.9
200	92.0	93.2	90.5	87.6	90.7	85.9	85.9	86.6	93.8	96.0	98.9	92.0	88.0	173.7
250	95.4	96.3	97.0	95.2	94.8	89.5	87.0	87.9	94.6	97.7	97.5	91.1	87.9	175.5
315	89.8	91.7	94.1	95.2	93.3	93.0	90.4	89.6	94.4	97.9	97.4	91.4	87.7	175.0
400	87.8	89.4	91.1	91.9	89.4	90.7	93.3	90.6	95.0	96.4	95.6	88.8	85.4	174.0
500	85.9	88.0	89.5	89.5	89.2	88.2	90.3	92.0	94.7	94.6	94.1	86.8	83.1	173.0
630	83.5	85.4	88.0	88.9	88.7	87.8	89.5	91.7	93.3	93.4	91.6	84.3	79.9	172.0
800	82.4	84.8	87.0	87.7	88.4	87.5	88.5	90.3	92.6	91.9	89.7	81.5	78.6	171.4
1000	80.2	83.9	85.9	86.6	86.3	86.8	87.5	88.7	91.4	90.8	88.2	80.3	75.5	170.8
1250	77.9	82.2	84.1	85.8	86.1	86.7	87.0	88.2	89.9	88.0	86.1	78.4	72.8	170.1
1600	75.7	80.5	82.4	84.9	83.7	85.1	85.6	86.4	88.2	86.0	84.0	75.0	68.9	169.6
2000	72.6	76.3	80.1	82.8	82.7	82.7	83.9	84.3	86.2	83.6	81.5	71.9	65.3	169.2
2500	67.4	74.0	76.9	79.4	80.5	80.4	81.6	81.1	84.5	81.5	76.4	66.7	56.8	169.1
3150	63.8	69.3	73.2	76.3	77.4	77.4	78.6	77.8	78.3	76.8	68.8	55.1	41.6	168.7
4000	53.9	62.2	66.6	70.3	68.3	69.5	69.1	69.4	74.1	71.7	62.2	45.2	24.9	169.7
5000	36.6	47.8	53.0	59.1	60.2	61.6	61.6	61.2	66.7	64.6	50.1	28.3		172.2
6300	15.3	29.7	38.3	44.1	46.6	48.0	47.4	47.0	54.8	52.4	33.2	0.7		177.4
8000			11.2	19.3	24.1	26.3	24.7	26.0	32.2	30.3	2.7			184.3
10000														181.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
GASPL	99.1	100.4	101.3	101.1	100.6	99.3	99.9	100.2	104.3	106.6	108.7	103.4	98.8	189.0
PNL	104.0	105.9	107.3	107.6	107.1	106.5	107.4	107.3	110.9	112.1	111.7	105.1	100.6	
PNLT	104.7	106.5	108.0	108.2	107.1	106.5	107.4	107.3	111.5	112.6	112.4	106.2	100.6	
DBA	92.5	94.5	96.2	96.9	96.4	96.1	97.0	97.8	100.5	100.5	99.7	92.6	88.8	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH268      TEST DATE = 08-24-82      LOCAT = C41 ANECH CH      CONFIG = 2      MODEL = AX      FLTVEL = 400. FPS  
 INLET LHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 75.50      PAMB HG = 29.45      RELHUM = 76.4 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1706.7 FPS      AE8 = 4.0 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2603.5 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-400-0230      TAPE = X02301      TEST PT NO = 0230      NC = AE060      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0231 X0231C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.8	83.3	83.3	88.4	88.2	86.8	87.2	89.1	89.1	88.9	96.5	96.0	96.1	132.5
63	90.4	88.5	90.7	95.1	96.1	95.2	96.4	98.0	96.2	95.8	104.2	102.4	102.3	139.8
80	89.2	93.2	89.5	91.0	91.1	92.5	93.4	92.3	93.7	93.1	95.7	98.4	100.3	135.7
100	89.2	95.5	91.0	93.8	94.4	93.5	94.7	96.1	94.5	96.6	99.2	102.2	104.8	138.8
125	85.2	88.7	91.7	92.7	94.3	94.2	95.1	95.5	94.7	98.0	104.4	107.3	108.3	141.5
160	87.2	85.0	90.0	90.6	91.1	91.0	96.4	93.3	94.5	99.3	105.7	108.6	111.0	142.9
200	87.8	87.9	89.1	90.9	92.5	93.6	96.3	96.4	99.6	101.4	107.1	110.5	113.2	144.8
250	87.5	91.8	91.6	92.6	92.2	93.1	96.7	98.4	100.1	106.4	112.5	115.2	115.6	148.6
315	89.4	90.9	90.7	92.6	95.3	95.9	99.3	98.5	102.4	109.5	114.1	116.6	116.7	150.2
400	89.2	92.0	92.5	93.5	94.7	95.0	105.4	99.3	103.8	112.6	117.0	118.7	116.3	152.2
500	90.5	92.0	93.1	94.5	95.2	96.3	98.9	100.6	105.6	114.4	119.5	119.4	117.1	153.6
630	91.2	93.7	94.7	95.4	96.6	97.2	99.1	101.8	106.0	115.8	119.7	120.9	117.8	154.5
800	94.2	95.2	97.0	97.0	98.4	98.5	100.9	103.8	108.8	116.8	121.7	121.1	118.3	155.6
1000	100.4	101.5	101.0	99.9	99.9	100.0	101.6	104.3	109.7	116.1	121.4	121.6	118.3	155.7
1250	103.3	106.8	106.1	106.2	105.7	104.1	104.5	105.9	110.6	115.9	122.3	122.2	119.2	156.5
1600	107.0	105.9	105.1	103.1	103.2	103.1	104.7	106.2	111.6	114.7	122.6	120.7	116.7	156.0
2000	109.8	108.4	108.6	107.0	104.6	102.7	104.9	107.2	111.6	115.1	121.6	118.5	113.5	155.2
2500	106.8	108.0	109.1	109.4	109.5	106.1	105.0	108.4	112.2	117.0	120.5	117.1	112.1	155.1
3150	103.9	105.4	105.9	107.0	108.6	108.9	107.5	108.2	111.5	116.4	119.6	114.8	110.8	154.3
4000	102.0	102.7	104.3	104.9	106.2	107.4	108.5	109.1	112.0	115.7	117.2	113.2	108.5	153.1
5000	100.5	102.5	103.9	103.8	105.1	105.3	107.9	109.5	112.0	115.1	116.4	112.2	107.7	152.6
6300	98.5	100.2	102.6	103.1	104.5	104.7	106.3	109.7	111.4	114.0	114.6	110.9	106.4	151.7
8000	96.3	99.6	101.2	101.6	102.3	104.2	105.3	108.9	109.9	111.9	113.2	109.0	104.1	150.6
10000	94.8	98.2	100.5	101.0	102.2	103.7	104.7	107.4	109.3	111.4	111.9	108.4	103.9	150.3
12500	92.8	95.4	98.8	100.0	100.6	102.1	103.4	105.5	107.6	109.0	109.5	106.1	102.1	149.1
16000	89.8	94.4	95.3	97.6	99.1	100.3	101.4	103.5	105.7	106.2	107.5	103.9	100.4	148.3
20000	87.2	90.7	92.9	95.7	96.8	97.8	99.1	100.5	103.0	104.0	106.0	101.3	98.2	147.8
25000	83.8	88.4	91.2	92.8	94.5	96.1	97.7	99.5	102.4	103.2	103.2	99.1	94.3	148.6
31500	77.7	82.8	85.1	86.5	89.4	90.7	91.7	94.3	98.3	100.2	100.8	94.4	88.4	147.8
40000	74.1	79.8	82.0	84.7	86.0	87.7	89.7	92.3	96.6	99.2	99.8	93.5	85.4	150.4
50000	72.9	76.8	78.2	81.6	83.5	84.8	86.2	90.0	94.3	98.6	99.4	91.7	82.6	153.5
63000	73.2	76.0	75.3	77.8	80.2	81.9	82.6	89.1	94.2	98.8	99.3	90.1	79.9	158.6
80000	74.6	76.9	73.9	75.7	78.5	79.3	80.0	86.0	92.1	99.8	100.3	88.1	74.6	165.7

CASPL 114.9 115.6 116.1 116.2 116.6 116.4 117.6 119.4 122.6 127.2 131.7 130.7 128.0 169.7  
PNL 127.8 128.7 129.6 129.8 130.3 130.3 131.1 132.3 135.4 139.8 143.5 141.3 137.9  
PNLT 127.8 129.7 130.6 131.4 131.6 130.3 132.1 132.3 135.4 139.8 143.5 141.3 137.9  
DBA 115.7 116.2 116.6 116.5 116.8 116.3 117.2 119.0 122.5 127.0 131.6 130.1 126.7

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH255 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 75.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1693.0 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2400.3 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-0231 TAPE = X0231C TEST PT NO = 0231 NC = AE060 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0231 X0231F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.6	83.3	83.3	88.4	88.2	86.8	87.2	89.1	89.1	88.9	96.5	96.0	96.1	132.5
63	90.4	88.5	90.7	95.1	96.1	95.2	96.4	98.0	96.2	95.8	104.2	102.4	102.3	139.8
80	89.2	93.2	89.5	91.0	91.1	92.5	93.4	92.3	93.7	93.1	95.7	98.4	100.3	135.7
100	89.2	95.5	91.0	93.8	94.4	93.5	94.7	96.1	94.5	96.6	99.2	102.2	104.8	138.8
125	85.2	88.7	91.7	92.7	94.3	94.2	95.1	95.5	94.7	98.0	104.4	107.3	108.3	141.5
160	87.2	85.0	90.0	90.6	91.1	91.0	96.4	93.3	94.5	99.3	105.7	108.6	111.0	142.9
200	87.8	87.9	89.1	90.9	92.5	93.6	96.3	96.4	99.6	101.4	107.1	110.5	113.2	144.8
250	87.5	91.8	91.6	92.6	92.2	93.1	96.7	98.4	100.1	106.4	112.5	115.2	115.6	148.6
315	89.4	90.9	90.7	92.6	95.3	95.9	99.3	98.5	102.4	109.5	114.1	116.6	116.7	150.2
400	89.2	92.0	92.5	93.5	94.7	95.0	105.4	99.3	103.8	112.6	117.0	118.7	116.3	152.2
500	90.5	92.0	93.1	94.5	95.2	96.3	98.9	100.6	105.6	114.4	119.5	119.4	117.1	153.6
630	91.2	93.7	94.7	95.4	96.6	97.2	99.1	101.8	106.0	115.8	119.7	120.9	117.8	154.5
800	94.2	95.2	97.0	97.0	98.4	98.5	100.9	103.8	108.8	116.8	121.7	121.1	118.3	155.6
1000	100.4	101.5	101.0	99.9	99.9	100.0	101.6	104.3	109.7	116.1	121.4	121.6	118.3	155.7
1250	103.3	106.8	106.1	106.2	105.7	104.1	104.5	105.9	110.6	115.9	122.3	122.2	119.2	156.5
1600	107.0	105.9	105.1	103.1	103.2	103.1	104.7	106.2	111.6	114.7	122.6	120.7	116.7	156.0
2000	109.8	108.4	108.6	107.0	104.6	102.7	104.9	107.2	111.6	115.1	121.6	118.5	113.5	155.2
2500	106.8	108.0	109.1	109.4	109.5	106.1	105.0	108.4	112.2	117.0	120.5	117.1	112.1	155.1
3150	103.9	105.4	105.9	107.0	108.6	108.9	107.5	108.2	111.5	116.4	119.6	114.8	110.8	154.3
4000	102.0	102.7	104.3	104.9	106.2	107.4	108.5	109.1	112.0	115.7	117.2	113.2	108.5	153.1
5000	100.5	102.5	103.9	103.8	105.1	105.3	107.9	109.5	112.0	115.1	116.4	112.2	107.7	152.6
6300	98.5	100.2	102.6	103.1	104.5	104.7	106.3	109.7	111.4	114.0	114.6	110.9	106.4	151.7
8000	96.3	99.6	101.2	101.6	102.3	104.2	105.3	108.9	109.9	111.9	113.2	109.0	104.1	150.6
10000	94.8	98.2	100.5	101.0	102.2	103.7	104.7	107.4	109.3	111.4	111.9	108.4	103.9	150.3
12500	92.8	95.4	98.8	100.0	100.6	102.1	103.4	105.5	107.6	109.0	109.5	106.1	102.1	149.1
16000	89.8	94.4	95.3	97.6	99.1	100.3	101.4	103.5	105.7	106.2	107.5	103.9	100.4	148.3
20000	87.2	90.7	92.9	95.7	96.8	97.8	99.1	100.5	103.0	104.0	106.0	101.3	98.2	147.8
25000	83.8	88.4	91.2	92.8	94.5	96.1	97.7	99.5	102.4	103.2	103.2	99.1	94.3	148.6
31500	77.7	82.8	85.1	88.5	89.4	90.7	91.7	94.3	98.3	100.2	100.8	94.4	88.4	147.8
40000	74.1	79.8	82.0	84.7	86.0	87.7	89.7	92.3	96.6	99.2	99.8	93.5	85.4	150.4
50000	72.9	76.8	78.2	81.6	83.5	84.8	86.2	90.0	94.3	98.6	99.4	91.7	82.6	153.5
63000	73.2	76.0	75.3	77.8	80.2	81.9	82.6	89.1	94.2	98.8	99.3	90.1	79.9	158.6
80000	74.6	76.9	73.9	75.7	78.5	79.3	80.0	86.0	92.1	99.8	100.3	88.1	74.6	165.7
CASPL	114.9	115.6	116.1	116.2	116.6	116.4	117.6	119.4	122.6	127.2	131.7	130.7	128.0	169.7
PNL	127.8	128.7	129.6	129.8	130.3	130.3	131.1	132.3	135.4	139.8	143.5	141.3	137.9	
PNLT	127.8	129.7	130.6	131.4	131.6	130.3	132.1	132.3	135.4	139.8	143.5	141.3	137.9	
DBA	195.0	197.3	194.6	196.5	199.2	200.2	200.9	206.9	212.9	220.1	220.6	208.8	196.1	

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH255	TEST DATE = 08-23-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.35	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM XNH =	RPM	V8 = 1693.0 FPS	AE8 = 4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM	V18 = 2400.3 FPS	AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0231 TAPE X0231F TEST PT NO = 0231 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0231 X02311

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	72.1	73.7	75.4	77.0	77.5	87.7	81.2	85.0	92.7	95.6	95.1	89.4	170.2
63	69.1	72.1	74.2	76.4	77.5	78.7	81.2	82.5	86.7	94.5	98.1	95.8	90.1	171.6
80	69.7	73.8	75.9	77.2	78.9	79.6	81.4	83.6	87.1	95.9	98.2	97.1	90.7	172.5
100	72.6	75.2	78.1	78.8	80.6	80.9	83.1	85.6	89.8	96.8	100.1	97.3	91.0	173.7
125	78.8	81.4	82.0	81.6	82.0	82.3	83.8	86.0	90.7	96.0	99.8	97.7	90.8	173.7
160	81.4	86.5	86.9	87.8	87.7	86.2	86.5	87.5	91.4	95.6	100.4	98.0	91.4	174.6
200	84.9	85.5	85.8	84.5	85.1	85.1	86.6	87.7	92.3	94.2	100.4	96.2	88.4	174.0
250	87.3	87.7	89.0	88.2	86.2	84.5	86.6	88.4	92.0	94.4	99.2	93.5	84.5	173.3
315	83.9	86.9	89.2	90.3	90.9	87.6	86.4	89.3	92.4	95.9	97.7	91.6	82.3	173.2
400	80.5	83.9	85.7	87.6	89.7	90.1	88.6	88.9	91.3	94.9	96.3	88.6	80.0	172.3
500	78.2	80.8	83.8	85.3	87.0	88.4	89.4	89.4	91.4	93.8	93.3	86.4	76.7	171.1
630	76.2	80.3	83.0	83.9	85.6	86.0	88.5	89.6	91.1	92.8	92.1	84.7	74.9	170.6
800	73.6	77.6	81.4	82.9	84.8	85.2	86.6	89.5	90.2	91.4	89.8	82.7	72.4	169.7
1000	71.0	76.7	79.8	81.2	82.5	84.5	85.5	88.5	88.5	89.0	88.0	80.1	69.0	168.6
1250	69.0	74.9	78.8	80.4	82.3	84.0	84.8	86.9	87.7	88.1	86.1	78.7	67.3	168.3
1600	66.2	71.6	76.7	79.1	80.3	82.0	83.1	84.6	85.5	85.1	82.9	75.1	63.2	167.1
2000	62.2	69.9	72.9	76.5	78.6	80.1	80.9	82.3	83.3	81.8	79.9	71.2	58.5	166.3
2500	57.8	65.1	69.6	73.9	75.8	77.1	78.2	78.7	79.7	78.3	76.6	65.8	51.3	165.8
3150	51.0	60.2	66.0	69.4	72.1	74.1	75.4	76.1	77.2	75.1	70.4	58.6	39.1	166.6
4000	38.7	49.9	56.1	61.9	64.0	65.8	66.4	67.6	69.3	67.4	61.8	45.0	18.7	165.9
5000	25.4	39.4	46.8	52.6	55.7	57.9	59.4	60.3	61.3	58.8	51.1	30.4		168.4
6300	6.3	22.2	30.9	38.7	43.1	45.1	45.8	47.1	47.0	44.0	32.9	4.5		171.6
8000			6.6	15.7	21.7	24.5	24.1	27.0	25.6	19.4	2.1			176.6
10000														183.7
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	92.1	94.4	96.1	96.8	97.6	97.4	98.4	99.6	102.3	106.1	109.2	106.0	99.2	187.6
PNL	96.2	98.9	101.5	102.9	104.0	104.5	105.1	106.3	108.2	110.7	112.2	107.1	99.1	
PNLT	96.2	99.4	102.0	103.7	104.7	104.5	105.1	106.3	108.2	111.3	112.9	108.9	99.1	
DBA	84.9	87.9	90.5	91.8	93.2	93.9	94.7	96.4	97.8	99.4	100.0	94.1	85.6	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH255      TEST DATE = 08-23-82      LOCAT = C41 ANECH CH      CONFIG = 2      MODEL = AX      FLTVEL = 0. FPS  
 IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 78.00      PAMB HG = 29.35      RELHUM = 75.2 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNINT' =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1693.0 FPS      AE8 = 4.0 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2400.3 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0231      TAPE = X02311      TEST PT NO = 0231      NC = AE060      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1219 X1219C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.3	83.1	81.1	81.4	82.7	80.1	86.2	85.1	88.1	89.9	89.5	97.0	96.6	130.7
63	84.4	90.5	87.7	88.8	91.6	88.2	94.9	94.8	95.0	97.3	95.4	103.4	103.5	137.7
80	85.9	90.0	86.0	87.5	87.4	88.7	89.6	88.8	90.0	90.3	91.2	94.6	97.0	132.1
100	86.2	91.0	86.8	89.1	89.7	89.8	90.9	92.6	91.0	92.3	95.2	98.9	101.3	135.0
125	84.2	86.9	89.0	90.4	91.1	90.7	91.6	92.2	91.5	93.3	99.2	103.3	105.8	137.9
160	84.7	81.7	87.7	87.3	88.6	88.2	92.9	90.3	90.7	94.0	100.4	104.6	108.3	139.2
200	84.3	86.9	86.9	87.9	89.0	89.9	93.0	94.4	95.4	96.2	101.6	107.3	110.7	141.5
250	83.8	91.1	88.6	88.6	89.2	91.8	94.7	95.1	96.1	100.6	107.8	111.7	113.4	145.2
315	86.6	89.4	88.9	91.9	92.8	92.7	96.6	96.5	98.4	103.2	108.9	113.6	115.5	147.0
400	86.0	89.8	90.8	90.7	92.2	92.3	103.2	97.1	99.8	106.3	112.0	116.2	116.3	149.2
500	88.0	90.0	90.8	91.8	92.4	93.5	95.7	96.8	101.1	107.6	114.5	117.2	116.8	150.3
630	88.4	91.5	93.0	93.1	94.1	94.7	95.9	98.0	100.5	109.3	115.7	117.9	117.3	151.1
800	91.9	92.7	94.8	96.0	96.6	95.7	97.1	100.0	102.5	109.8	117.0	118.9	118.0	152.2
1000	100.7	102.5	101.7	101.1	99.6	97.7	98.4	100.3	104.0	109.6	116.4	119.6	119.3	152.8
1250	100.8	101.8	102.1	103.5	104.5	104.6	104.2	102.6	104.3	109.7	115.5	119.5	120.0	153.0
1600	104.5	103.9	103.4	102.1	101.0	100.8	102.7	103.0	105.4	109.2	115.3	119.5	120.0	152.9
2000	106.5	105.4	105.3	105.0	104.1	101.9	100.9	103.0	105.3	109.1	113.9	118.5	117.2	151.9
2500	103.3	104.5	105.3	105.4	105.7	104.3	102.8	103.6	106.0	109.5	112.8	117.4	115.4	151.2
3150	102.6	103.9	103.9	103.7	104.1	104.4	105.3	103.7	105.5	108.6	112.6	115.8	113.3	150.3
4000	99.8	101.5	103.1	103.2	102.9	102.4	103.3	104.6	106.2	108.2	111.2	113.7	111.5	149.0
5000	98.8	100.5	101.9	101.6	102.3	102.6	102.9	104.0	107.2	106.8	110.9	112.7	110.2	148.5
6300	96.9	99.0	100.3	100.8	102.0	101.7	102.2	103.2	105.9	106.0	108.8	110.9	108.4	147.3
8000	95.5	98.1	99.4	99.9	100.6	100.6	101.1	102.2	105.1	104.9	106.7	108.2	106.1	146.1
10000	93.5	96.9	98.4	99.2	99.5	100.5	100.7	102.2	103.5	103.9	106.1	106.8	104.9	145.7
12500	92.3	94.4	97.2	98.2	98.5	98.8	99.1	100.3	101.3	100.7	103.5	105.6	103.3	144.7
16000	89.7	93.3	94.5	96.3	97.0	96.7	97.6	97.9	99.6	98.2	101.4	102.8	100.4	143.9
20000	87.8	90.1	92.0	94.1	94.9	95.7	95.8	95.6	96.9	95.4	99.4	100.7	98.8	143.5
25000	84.1	87.5	89.7	91.9	92.6	93.7	94.3	94.1	95.7	93.8	95.5	95.4	95.0	143.3
31500	77.8	82.1	84.1	87.3	87.4	88.8	88.8	89.1	90.8	89.0	91.8	90.9	89.2	141.6
40000	75.1	79.2	80.7	83.4	84.8	85.4	86.0	86.1	87.8	86.4	91.3	89.1	86.4	143.1
50000	71.3	76.5	76.8	79.0	80.9	81.9	82.1	81.9	85.2	83.7	89.8	84.8	83.8	144.5
63000	68.4	74.9	74.4	74.7	76.9	78.3	78.8	79.8	81.6	82.9	87.9	84.0	80.6	147.5
80000	66.2	74.4	72.7	70.0	72.0	73.6	77.0	74.2	78.2	82.2	86.0	82.1	79.1	152.0

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CASPL 112.4 113.2 113.6 113.8 113.9 113.6 114.4 114.7 116.9 120.3 125.7 129.0 128.6 163.5  
PNL 125.2 126.2 126.7 126.8 127.1 126.8 127.8 127.8 129.9 132.7 137.1 140.6 139.6  
PNLT 126.6 127.9 127.8 126.8 128.5 128.6 129.0 127.8 129.9 132.7 137.1 140.6 139.6  
DBA 113.1 113.7 114.1 114.0 114.1 113.6 113.9 114.3 116.7 120.1 125.3 128.7 128.1

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH239 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.4 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1763.6 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1219 TAPE = X1219C TEST PT NO = 1219 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1219 X1219F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	81.3	83.1	81.1	81.4	82.7	80.1	86.2	85.1	88.1	89.9	89.5	97.0	96.6	130.7
63	84.4	90.5	87.7	88.8	91.6	88.2	94.9	94.8	95.0	97.3	95.4	103.4	103.5	137.7
80	85.9	90.0	86.0	87.5	87.4	88.7	89.6	88.8	90.0	90.3	91.2	94.6	97.0	132.1
100	86.2	91.0	86.8	89.1	89.7	89.8	90.9	92.6	91.0	92.3	95.2	98.9	101.3	135.0
125	84.2	86.9	89.0	90.4	91.1	90.7	91.6	92.2	91.5	93.3	99.2	103.3	105.8	137.9
160	84.7	81.7	87.7	87.3	88.6	88.2	92.9	90.3	90.7	94.0	100.4	104.6	108.3	139.2
200	84.3	86.9	86.9	87.9	89.0	89.9	93.0	94.4	95.4	96.2	101.6	107.3	110.7	141.5
250	83.8	91.1	88.6	88.6	89.2	91.8	94.7	95.1	96.1	100.6	107.8	111.7	113.4	145.2
315	86.6	89.4	88.9	91.9	92.8	92.7	96.6	96.5	98.4	103.2	108.9	113.6	115.5	147.0
400	86.0	89.8	90.8	90.7	92.2	92.3	103.2	97.1	99.8	106.3	112.0	116.2	116.3	149.2
500	88.0	90.0	90.8	91.8	92.4	93.5	95.7	96.8	101.1	107.6	114.5	117.2	116.8	150.3
630	88.4	91.5	93.0	93.1	94.1	94.7	95.9	98.0	100.5	109.3	115.7	117.9	117.3	151.1
800	91.9	92.7	94.8	96.0	96.6	95.7	97.1	100.0	102.5	109.8	117.0	118.9	118.0	152.2
1000	100.7	102.5	101.7	101.1	99.6	97.7	98.4	100.3	104.0	109.6	116.4	119.6	119.3	152.8
1250	100.8	101.8	102.1	103.5	104.5	104.6	104.2	102.6	104.3	109.7	115.5	119.5	120.0	153.0
1600	104.5	103.9	103.4	102.1	101.0	100.8	102.7	103.0	105.4	109.2	115.3	119.5	120.0	152.9
2000	106.5	105.4	105.3	105.0	104.1	101.9	100.9	103.0	105.3	109.1	113.9	118.5	117.2	151.9
2500	103.3	104.5	105.3	105.4	105.7	104.3	102.8	103.6	106.0	109.5	112.8	117.4	115.4	151.2
3150	102.6	103.9	103.9	103.7	104.1	104.4	105.3	103.7	105.5	108.6	112.6	115.8	113.3	150.3
4000	99.8	101.5	103.1	103.2	102.9	102.4	103.3	104.6	106.2	108.2	111.2	113.7	111.5	149.0
5000	98.8	100.5	101.9	101.6	102.3	102.6	102.9	104.0	107.2	106.8	110.9	112.7	110.2	148.5
6300	96.9	99.0	100.3	100.8	102.6	101.7	102.2	103.2	105.9	106.0	108.8	110.9	108.4	147.3
8000	95.5	98.1	99.4	99.9	100.6	100.6	101.1	102.2	105.1	104.9	106.7	108.2	106.1	146.1
10000	93.5	96.9	98.4	99.2	99.5	100.5	100.7	102.2	103.5	103.9	106.1	106.8	104.9	145.7
12500	92.3	94.4	97.2	98.2	98.5	98.8	99.1	100.3	101.3	100.7	103.5	105.6	103.3	144.7
16000	89.7	93.3	94.5	96.3	97.0	96.7	97.6	97.9	99.6	98.2	101.4	102.8	100.4	143.9
20000	87.8	90.1	92.0	94.1	94.9	95.7	95.8	95.6	96.9	95.4	99.4	100.7	98.8	143.5
25000	84.1	87.6	89.7	91.9	92.6	93.7	94.3	94.1	95.7	93.8	95.5	95.4	95.0	143.3
31500	77.8	82.1	84.1	87.3	87.4	88.8	88.8	89.1	90.8	89.0	91.8	90.9	89.2	141.6
40000	75.1	79.2	80.7	83.4	84.8	85.4	86.0	86.1	87.8	86.4	91.3	89.1	86.4	143.1
50000	71.3	76.5	76.8	79.0	80.9	81.9	82.1	81.9	85.2	83.7	89.8	84.8	83.8	144.5
63000	68.4	74.9	74.4	74.7	76.9	78.3	78.8	79.8	81.6	82.9	87.9	84.0	80.6	147.5
80000	66.2	74.4	72.7	70.0	72.0	73.6	77.0	74.2	78.2	82.2	86.0	82.1	79.1	152.0
DASPL	112.4	113.2	113.6	113.8	113.9	113.6	114.4	114.7	116.9	120.3	125.7	129.0	128.6	163.5
PNL	125.2	126.2	126.7	126.8	127.1	126.8	127.8	127.8	129.9	132.7	137.1	140.6	139.6	
PNLT	126.6	127.9	127.8	126.8	128.5	128.6	129.0	127.8	129.9	132.7	137.1	140.6	139.6	
DBA	187.0	195.0	193.4	191.5	193.5	195.0	197.8	195.8	199.2	202.8	206.8	202.8	199.8	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH239 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0 FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1763.6 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1219 TAPE = X1219F TEST PT NO = 1219 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1219 X12191

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	64.6	69.9	72.0	72.6	74.5	74.7	85.5	79.0	81.0	86.5	90.6	92.6	89.4	167.2
63	66.6	70.1	72.0	73.7	74.7	76.0	78.0	78.7	82.2	87.7	93.1	93.5	89.8	168.3
80	66.9	71.5	74.1	75.0	76.4	77.1	78.1	79.9	81.6	89.4	94.2	94.1	90.2	169.1
100	70.4	72.7	75.8	77.8	78.9	78.1	79.4	81.8	83.6	89.8	95.4	95.1	90.8	170.2
125	79.0	82.4	82.7	82.9	81.8	80.0	80.5	82.0	85.0	89.5	94.8	95.7	91.8	170.8
160	78.9	81.6	82.9	85.1	86.5	86.7	86.2	84.2	85.2	89.4	93.7	95.2	92.1	171.0
200	82.4	83.5	84.0	83.5	82.9	82.9	84.6	84.4	86.0	88.7	93.2	94.9	91.7	170.9
250	84.1	84.7	85.8	86.2	85.7	83.7	82.6	84.2	85.8	88.4	91.4	93.5	88.2	169.9
315	80.4	83.4	85.5	86.3	87.1	85.9	84.2	84.6	86.1	88.4	89.9	91.8	85.6	169.2
400	79.3	82.4	83.7	84.4	85.2	85.6	86.4	84.4	85.3	87.1	89.3	89.6	82.5	168.3
500	76.0	79.6	82.5	83.5	83.8	83.4	84.1	84.9	85.7	86.3	87.3	86.9	79.7	167.1
630	74.5	78.3	81.0	81.6	82.9	83.3	83.5	84.0	86.4	84.6	86.6	85.2	77.4	166.6
800	72.1	76.3	79.1	80.6	82.3	82.2	82.6	82.9	84.7	83.4	84.0	82.7	74.4	165.4
1000	70.3	75.2	78.0	79.5	80.8	81.0	81.3	81.8	83.7	82.0	81.4	79.4	71.0	164.1
1250	67.7	73.6	76.8	78.7	79.5	80.7	80.7	81.6	81.9	80.6	80.3	77.2	68.3	163.8
1600	65.7	70.5	75.1	77.3	78.3	78.8	78.8	79.4	79.2	76.8	76.8	74.5	64.4	162.7
2000	62.1	68.9	72.1	75.2	76.6	76.6	77.1	76.7	77.2	73.7	73.8	70.1	58.4	161.9
2500	58.4	64.4	68.7	72.3	74.0	75.0	74.8	73.8	73.6	69.7	70.0	65.2	52.0	161.5
3150	51.4	59.3	64.5	68.5	70.2	71.7	72.0	70.7	70.5	65.6	62.8	54.9	39.7	161.4
4000	38.8	49.2	55.1	60.7	62.1	63.9	63.4	62.4	61.8	56.1	52.8	41.5	19.5	159.6
5000	26.4	38.8	45.5	51.3	54.4	55.6	55.6	54.0	52.5	46.0	42.5	26.0		161.1
6300	4.8	21.8	29.5	36.1	40.5	42.3	41.7	39.0	37.9	29.1	23.2			162.5
8000			5.8	12.6	18.4	20.9	20.2	17.7	13.0	3.5				165.5
10000														170.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
CASPL	89.6	91.9	93.5	94.4	95.0	94.7	95.3	95.0	96.5	99.3	103.3	104.1	100.0	181.3
PNL	93.8	96.6	98.9	100.3	101.2	101.2	101.7	101.3	102.4	103.2	105.6	105.9	100.9	
PNLT	94.9	97.5	99.4	100.3	101.9	102.1	102.3	101.3	103.0	103.2	105.6	105.9	100.9	
DBA	82.6	85.9	88.3	89.5	90.5	90.6	90.8	91.0	92.2	91.9	93.5	93.7	87.9	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICL = ADH239 TEST DATE = 08-23-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.35 RELHUM = 79.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.4 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1763.6 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1219 TAPE = X12191 TEST PT NO = 1219 NC = AE060 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1220 X1220C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.0	83.8	78.8	80.1	80.0	79.6	80.2	81.4	83.3	93.2	89.5	90.0	96.9	129.3
63	88.4	89.7	84.2	82.6	86.1	85.5	86.1	85.0	88.0	102.0	90.2	89.9	95.8	134.6
80	87.4	91.0	87.2	89.3	88.6	89.5	90.9	89.5	90.2	90.6	91.9	94.9	98.8	133.1
100	85.7	90.8	86.3	88.8	89.4	88.8	90.4	91.3	89.0	89.1	93.0	97.4	102.1	134.3
125	83.2	84.7	87.0	88.4	88.8	88.7	89.8	89.7	88.5	90.3	96.7	101.3	104.3	135.9
160	81.7	80.0	84.7	84.3	85.1	84.5	91.4	85.8	86.5	90.3	97.7	101.6	106.3	136.7
200	84.1	82.6	82.9	83.2	84.5	85.9	90.5	89.4	91.1	91.4	97.6	103.5	107.4	137.9
250	80.5	83.8	82.8	84.4	84.2	86.1	92.2	90.6	91.6	96.1	103.0	107.5	108.9	140.7
315	82.6	83.4	83.4	85.6	86.6	86.9	92.6	91.2	93.7	98.2	104.9	109.3	109.5	142.2
400	81.5	84.0	84.5	85.5	86.7	86.8	98.9	91.6	94.5	101.3	107.7	110.7	108.8	143.6
500	82.7	83.8	85.3	86.8	87.4	88.3	92.2	92.8	95.8	102.9	109.8	111.2	106.1	144.1
630	83.7	84.7	87.0	87.9	87.6	89.2	91.9	94.0	96.5	104.8	111.4	111.4	102.8	144.9
800	85.7	86.5	88.8	88.5	89.9	90.5	93.1	95.3	98.0	105.3	112.5	109.6	99.3	145.0
1000	93.7	91.2	91.0	90.9	91.1	91.7	93.9	96.0	99.2	105.1	111.2	107.9	97.8	144.1
1250	102.0	102.8	99.8	97.2	94.5	93.6	95.7	96.9	100.1	105.2	110.3	105.5	98.2	144.4
1600	104.3	104.7	105.9	104.8	101.7	96.6	97.4	98.0	100.6	104.9	109.3	103.0	97.2	145.7
2000	103.3	103.4	104.8	105.8	104.6	102.2	98.9	98.2	100.8	104.4	106.1	100.7	95.5	145.4
2500	101.3	102.3	103.1	103.9	104.7	104.3	103.5	100.9	101.5	105.0	105.0	99.4	93.9	145.4
3150	99.4	100.7	101.4	101.2	101.3	102.6	104.8	102.7	101.3	104.1	103.6	97.6	93.1	144.4
4000	97.3	98.0	100.1	100.7	99.7	99.7	101.0	103.1	103.5	103.4	102.4	97.2	92.5	143.3
5000	97.3	98.0	99.1	99.1	99.6	99.3	99.9	101.8	104.5	103.6	102.7	97.0	92.0	143.2
6300	96.2	96.5	98.1	98.1	99.0	98.2	99.5	100.4	102.7	103.3	101.4	96.4	91.4	142.4
8000	94.0	96.1	97.2	97.4	97.3	97.4	98.3	99.4	101.4	101.4	99.7	94.0	89.6	141.5
10000	93.0	95.4	96.7	97.2	97.2	97.5	98.5	98.9	100.1	100.1	98.1	94.4	89.4	141.4
12500	90.8	92.7	94.8	96.2	95.6	96.1	96.4	97.3	98.1	97.2	96.0	92.4	87.4	140.3
16000	89.0	91.4	92.1	94.1	94.8	94.1	95.4	95.7	96.0	94.2	93.3	89.9	85.7	139.8
20000	86.4	88.5	89.6	92.2	92.3	92.8	94.1	93.2	93.5	90.8	91.2	87.5	83.4	139.4
25000	83.5	86.4	87.7	89.8	90.5	91.1	92.7	91.2	92.2	89.2	87.0	84.6	80.1	139.8
31500	76.7	80.8	81.8	84.8	85.4	86.2	86.5	86.0	86.8	84.2	82.8	79.1	73.6	137.6
40000	73.6	77.5	78.8	81.4	82.0	82.7	83.5	83.3	83.6	81.0	79.3	75.7	71.1	138.4
50000	69.6	73.6	74.7	77.1	78.0	79.0	79.7	79.2	79.8	76.9	75.2	72.4	66.6	138.9
63000	65.0	70.8	70.3	72.1	73.5	74.7	74.1	75.3	75.7	73.8	72.0	68.1	61.4	139.9
80000	60.4	70.9	67.4	65.9	67.9	69.8	68.7	68.9	69.9	70.7	66.7	61.3	53.8	142.0

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CASPL 110.6 111.3 112.0 112.2 111.6 110.9 111.8 111.6 113.1 116.2 120.1 119.3 117.0 157.2  
PNL 122.7 123.6 124.3 124.8 124.9 124.5 126.0 125.2 126.4 128.6 130.3 127.6 124.4  
PNLT 122.7 125.2 126.2 124.8 124.9 124.5 127.1 125.2 126.4 128.6 130.3 127.6 124.4  
DBA 111.2 111.8 112.6 112.7 112.0 111.1 111.6 111.4 112.9 115.8 119.4 116.8 111.4

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-2/NAS3-23166

VEHICLE = ADH257 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.40 RELHUM = 75.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.1 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1763.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1220 TAPE = X1220C TEST PT NO = 1220 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1220 X1220F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	86.8	89.1	87.0	87.2	85.6	86.1	90.3	87.0	90.2	93.9	100.0	104.9	106.9	138.5
315	86.8	89.1	87.0	87.2	88.3	87.1	91.2	88.4	91.3	97.3	103.3	107.0	107.7	140.3
400	89.5	89.3	88.0	88.8	88.4	87.0	97.6	88.8	92.9	99.2	105.8	108.5	106.7	141.7
500	88.6	90.1	89.3	88.8	89.3	88.6	91.1	90.3	95.2	103.1	109.8	111.6	107.4	144.4
630	90.4	90.2	90.3	90.3	89.6	89.6	91.2	92.4	97.0	104.1	111.8	111.7	107.4	145.4
800	91.2	91.0	91.9	91.3	91.9	91.0	92.5	93.6	99.0	104.7	111.5	111.5	108.6	145.5
1000	92.9	92.6	93.6	92.0	92.8	92.4	93.5	94.7	100.0	104.9	110.6	109.0	108.9	144.7
1250	100.3	96.6	95.1	93.6	96.4	94.4	95.5	95.7	100.8	105.1	110.1	107.1	108.5	144.6
1600	109.5	109.1	104.7	100.6	104.3	97.6	97.5	97.1	101.6	104.9	107.3	105.1	106.9	146.8
2000	114.5	113.2	112.4	109.4	106.7	103.5	99.6	97.9	103.0	106.5	107.2	104.9	106.6	150.9
2500	108.2	107.8	108.6	108.7	107.5	105.9	104.6	101.2	103.7	106.5	106.7	104.0	106.6	148.8
3150	108.2	108.4	108.2	107.9	104.4	104.6	106.3	103.8	105.9	105.6	105.3	103.5	106.1	148.6
4000	105.8	106.5	106.5	105.3	103.3	102.2	103.1	104.4	106.5	105.3	105.1	102.9	105.3	147.3
5000	104.2	104.3	105.6	105.2	103.6	102.3	102.2	102.8	104.9	105.2	104.0	102.5	104.9	146.6
6300	104.1	104.3	104.7	103.7	103.0	101.2	101.8	101.6	103.8	103.7	102.6	100.4	103.4	145.8
8000	103.3	102.9	103.7	102.7	101.4	100.4	100.7	100.7	103.4	103.4	102.0	101.5	103.7	145.4
10000	101.1	102.5	102.7	101.9	101.3	100.5	100.9	100.6	101.9	100.9	100.3	99.8	101.8	145.0
12500	99.9	101.6	101.9	101.5	99.6	99.1	98.8	99.1	100.2	98.2	97.5	97.0	99.6	144.4
16000	97.2	98.3	99.5	99.9	98.9	97.1	97.6	97.4	96.8	93.7	94.5	93.6	96.4	143.5
20000	95.0	96.6	96.4	97.5	96.3	95.8	95.8	93.8	96.7	93.8	92.0	92.5	94.9	143.2
25000	91.8	93.1	93.3	94.9	94.5	94.1	94.6	92.3	93.3	90.9	90.2	89.9	91.5	143.2
31500	88.0	90.2	90.6	91.7	90.0	89.2	88.9	88.0	90.6	88.1	87.1	86.6	89.0	142.6
40000	83.2	86.0	85.6	87.0	86.1	85.7	85.8	85.1	87.5	84.6	83.7	84.1	85.4	142.8
50000	76.9	80.1	80.5	82.1	82.0	82.0	82.1	81.1	83.8	81.9	80.9	80.6	81.5	143.0
63000	72.0	75.2	75.4	76.8	77.5	77.7	76.5	77.0	77.9	78.2	74.5	72.0	71.5	143.2
80000	65.9	70.9	69.5	70.3	71.9	72.8	70.6	69.5	68.1	68.4	64.7	62.2	61.7	143.4
OASPL	118.2	117.7	117.3	116.0	114.6	112.9	113.1	112.2	114.8	116.5	119.9	119.6	119.1	159.6
PNL	130.8	130.2	129.7	128.4	127.2	125.6	126.5	125.2	127.8	128.8	130.2	128.9	130.3	
PNLT	132.7	133.2	132.5	130.3	127.2	125.6	127.6	125.2	127.8	128.8	130.2	128.9	130.3	
DBA	187.9	192.3	191.5	192.5	193.7	194.3	192.5	192.0	191.9	191.9	188.6	186.8	186.8	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICLE = ADH257	TEST DATE = 08-24-82	LOCAT = C41 ANECH CH	CONFIG = 2	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 78.00	PAMB HG = 29.40	RELHUM = 75.2 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1687.1 FPS	AE8 =	4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1763.3 FPS	AE18 =	18.0 SQ IN

RUNPT = 82F-400-1220 TAPE = X1220F TEST PT NO = 1220 NC = AE060 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1220 X12201

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	68.1	69.4	69.2	70.7	70.8	69.5	79.9	70.8	74.1	79.4	84.4	84.9	79.8	159.7
63	67.2	70.2	70.4	70.7	71.6	71.1	73.4	72.2	76.4	83.2	88.3	87.9	80.4	162.5
80	68.9	70.2	71.4	72.1	71.8	72.0	73.5	74.3	78.1	84.2	90.3	88.0	80.2	163.4
100	69.6	71.0	73.0	73.1	74.1	73.4	74.7	75.4	80.1	84.7	90.0	87.7	81.3	163.6
125	71.2	72.5	74.6	73.7	74.9	74.7	75.6	76.4	81.0	84.8	88.9	85.0	81.4	162.7
160	78.5	76.4	75.9	75.3	78.4	76.5	77.5	77.3	81.7	84.8	88.3	82.9	80.7	162.6
200	87.4	88.6	85.4	82.0	86.2	79.6	79.3	78.6	82.2	84.5	85.2	80.5	78.6	164.8
250	92.0	92.4	92.9	90.6	88.4	85.3	81.2	79.2	83.5	85.8	84.8	79.9	77.7	168.9
315	85.4	86.7	88.7	89.6	89.0	87.5	86.0	82.2	83.8	85.4	83.9	78.4	76.9	166.8
400	84.8	86.9	88.0	88.5	85.5	85.9	87.4	84.4	85.7	84.1	81.9	77.3	75.3	166.6
500	82.0	84.7	86.0	85.6	84.1	83.2	83.9	84.7	85.9	83.5	81.2	76.0	73.6	165.3
630	79.9	82.0	84.7	85.2	84.1	83.0	82.7	82.9	84.0	83.0	79.7	75.0	72.0	164.6
800	79.3	81.7	83.5	83.5	83.3	81.7	82.1	81.4	82.7	81.0	77.8	72.2	69.5	163.9
1000	78.0	80.0	82.3	82.3	81.6	80.8	80.8	80.3	82.0	80.4	76.7	72.7	68.6	163.5
1250	75.3	79.2	81.0	81.3	81.3	80.7	80.9	80.1	80.3	77.7	74.5	70.1	65.3	163.0
1600	73.2	77.7	79.9	80.6	79.4	79.0	78.6	78.2	78.1	74.4	70.9	65.9	60.6	162.4
2000	69.6	73.8	77.0	78.8	78.4	76.9	77.2	76.2	74.4	69.3	66.8	61.0	54.4	161.5
2500	65.6	70.9	73.1	75.6	75.4	75.1	74.9	72.0	73.4	68.1	62.6	57.1	48.0	161.3
3150	59.0	64.9	68.1	71.5	72.2	72.1	72.3	68.9	68.1	62.8	57.5	49.4	36.3	161.2
4000	49.0	57.3	61.6	65.1	64.6	64.3	63.6	61.4	61.6	55.3	48.1	37.3	19.3	160.6
5000	34.4	45.6	50.4	55.0	55.8	55.9	55.5	53.0	52.2	44.2	34.9	21.0		160.8
6300	10.4	25.5	33.2	39.3	41.6	42.4	41.7	38.2	36.5	27.3	14.3			161.1
8000			6.8	14.7	19.0	20.2	18.0	14.9	9.2					161.3
10000														161.4
12500														
15000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	95.3	96.5	97.1	96.6	95.6	94.0	93.9	92.4	94.3	95.4	97.7	94.9	89.9	177.5
PNL	100.3	102.0	103.1	102.6	102.1	100.8	101.3	99.4	100.8	99.9	99.2	95.4	90.8	
PNLT	101.3	103.5	104.5	103.6	102.1	100.8	101.8	99.4	101.5	99.9	99.2	95.4	90.8	
DBA	89.0	91.0	92.5	92.6	91.7	90.6	90.7	89.7	90.7	89.2	87.2	82.5	79.5	

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-2/NAS3-23166

VEHICL = ADH257 TEST DATE = 08-24-82 LOCAT = C41 ANECH CH CONFIG = 2 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 78.00 PAMB HG = 29.40 RELHUM = 75.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.1 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1763.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1220 TAPE = X12201 TEST PT NO = 1220 NC = AE060 CORR FAN SPEED = RPM



#### 4.3 Acoustic Data of DFSC-3

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-ZER-0301 X0301C  
BACKGROUND

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	78.3	77.8	73.6	70.1	76.5	65.6	69.0	79.9	68.8	94.2	74.3	72.2	78.1	125.6
63	86.9	88.0	83.0	80.3	86.6	76.2	80.6	89.5	77.5	103.8	79.9	74.6	85.8	135.2
80	68.4	72.0	69.0	69.5	69.4	67.7	70.6	73.0	69.2	81.6	70.9	73.4	75.0	115.4
100	66.5	71.8	67.0	70.3	71.2	69.5	69.9	71.6	71.0	74.1	76.2	77.9	79.8	114.8
125	66.4	69.7	70.5	71.7	71.3	70.5	72.8	72.0	72.0	75.0	78.7	81.8	83.5	117.1
160	77.4	72.7	71.0	70.3	73.6	72.0	76.4	76.8	72.5	83.5	79.2	82.4	85.3	120.0
200	80.3	76.6	72.4	72.4	75.8	73.9	78.5	79.9	76.9	87.0	82.6	86.0	88.4	123.2
250	70.3	73.6	70.8	72.1	73.2	74.6	76.0	77.6	77.6	82.4	87.3	90.7	92.4	124.7
315	79.6	78.2	77.2	78.4	78.8	76.2	80.6	83.2	80.9	87.5	88.6	92.3	94.7	127.4
400	70.7	74.5	74.5	75.5	76.7	76.8	89.2	81.1	82.3	87.4	92.0	95.9	97.1	130.0
500	71.0	74.8	75.1	76.8	77.7	77.8	81.2	81.3	84.1	89.1	95.3	98.9	100.1	132.3
630	71.9	76.7	77.5	79.1	79.6	79.7	80.4	82.8	84.7	91.8	97.7	101.1	102.0	134.5
800	75.7	78.2	79.0	81.5	81.4	81.5	83.1	85.0	87.2	94.1	100.7	102.9	103.0	136.4
1000	85.7	87.5	88.0	88.1	85.9	83.7	84.4	86.3	89.0	95.1	101.9	104.4	104.3	137.9
1250	80.0	85.3	86.3	89.5	90.2	90.6	91.4	89.9	90.6	96.1	103.8	104.7	105.2	139.1
1600	81.3	83.7	83.6	85.1	86.2	86.3	88.9	90.0	92.1	96.4	104.3	105.5	106.2	139.6
2000	86.8	87.7	88.1	87.5	86.3	85.9	87.8	90.0	92.3	96.9	103.1	104.9	105.2	139.0
2500	84.0	85.8	87.3	86.6	88.4	87.8	88.2	91.4	93.5	98.0	101.8	103.8	104.4	138.4
3150	85.1	87.2	86.9	86.7	86.3	87.1	89.0	90.7	93.3	97.1	101.4	101.8	102.3	137.2
4000	85.8	86.2	86.6	86.9	86.5	86.7	88.3	91.4	93.2	96.4	99.4	100.2	100.8	136.1
5000	91.1	89.6	88.7	87.1	86.6	86.8	88.2	90.5	94.0	95.6	99.0	99.0	99.8	135.9
6300	91.8	91.8	90.6	90.2	88.3	86.5	88.3	91.0	93.2	93.9	97.2	98.7	98.5	135.7
8000	89.7	91.0	90.6	91.0	89.5	88.0	87.7	90.3	92.5	93.3	95.6	97.1	98.0	135.3
10000	87.7	89.4	89.7	90.0	89.2	89.7	89.2	89.7	91.3	92.2	93.6	97.1	98.1	135.3
12500	87.2	87.6	88.9	89.1	87.4	88.4	88.0	89.1	90.2	88.9	91.1	95.7	96.9	134.7
16000	85.8	87.8	87.2	88.2	86.4	86.3	86.9	88.5	89.1	86.9	88.8	93.1	94.4	134.4
20000	84.4	86.1	86.8	87.8	86.3	85.1	85.4	85.5	86.9	84.8	87.1	90.8	92.7	134.6
25000	81.3	84.4	85.4	87.2	85.6	84.9	84.3	83.4	84.9	83.1	83.6	88.6	88.9	135.2
31500	74.8	78.9	79.7	83.3	81.8	81.6	79.9	78.7	79.4	78.6	78.6	82.5	82.7	133.6
40000	71.4	75.1	77.1	79.6	79.1	79.2	78.6	76.5	76.9	75.5	75.6	79.8	79.1	134.8
50000	68.0	72.2	73.8	75.5	75.9	76.6	75.1	73.4	73.2	71.9	72.0	76.5	75.9	135.9
63000	63.3	68.1	69.2	71.2	71.0	72.7	69.9	69.9	69.4	67.8	68.6	71.9	71.9	136.9
80000	55.7	64.8	63.3	64.4	64.7	66.6	64.2	63.7	63.7	62.4	63.4	66.4	63.4	137.8
DASPL	99.4	100.3	100.1	100.6	99.9	99.5	100.7	102.1	103.8	108.9	112.3	114.1	114.6	150.4
PNL	111.6	112.2	111.6	111.7	111.3	110.8	112.6	114.6	116.3	120.6	124.5	126.1	126.7	
PNLT	114.2	114.1	113.4	112.4	112.7	112.6	114.3	115.2	116.3	121.8	124.5	126.1	126.7	
DBA	98.2	99.0	98.9	99.2	98.7	98.4	99.8	101.4	103.6	107.3	112.7	114.3	114.7	

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS9-23166

VEHICL = ADH286 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1699.6 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN  
RUNPT = B2F-ZER-0301 TAPE = X0301C TEST PT NO = 0301 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 58 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0301 X0301F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	78.3	77.8	73.6	70.1	76.5	65.6	69.0	79.9	68.8	94.2	74.3	72.2	78.1	125.6
63	86.9	88.0	83.0	80.3	86.6	76.2	80.6	89.5	77.5	103.8	79.9	74.6	85.8	135.2
80	68.4	72.0	69.0	69.5	69.4	67.7	70.6	73.0	69.2	81.6	70.9	73.4	75.0	115.4
100	66.5	71.8	67.0	70.3	71.2	69.5	69.9	71.6	71.0	74.1	76.2	77.9	79.8	114.8
125	66.4	69.7	70.5	71.7	71.3	70.5	72.8	72.0	72.0	75.0	78.7	81.8	83.5	117.1
160	77.4	72.7	71.0	70.3	73.6	72.0	76.4	76.8	72.5	83.5	79.2	82.4	85.3	120.0
200	80.3	76.6	72.4	72.4	75.8	73.9	78.5	79.9	76.9	87.0	82.6	86.0	88.4	123.2
250	70.3	73.6	70.8	72.1	73.2	74.6	76.0	77.6	77.6	82.4	87.3	90.7	92.4	124.7
315	79.6	78.2	77.2	78.4	78.8	76.2	80.6	83.2	80.9	87.5	88.6	92.3	94.7	127.4
400	70.7	74.5	74.5	75.5	76.7	76.8	89.2	81.1	82.3	87.4	92.0	95.9	97.1	130.0
500	71.0	74.8	75.1	76.8	77.7	77.8	81.2	81.3	84.1	89.1	95.3	98.9	100.1	132.3
630	71.9	76.7	77.5	79.1	79.6	79.7	80.4	82.8	84.7	91.8	97.7	101.1	102.0	134.5
800	75.7	78.2	79.0	81.5	81.4	81.5	83.1	85.0	87.2	94.1	100.7	102.9	103.0	136.4
1000	85.7	87.5	88.0	88.1	85.9	83.7	84.4	86.3	89.0	95.1	101.9	104.4	104.3	137.9
1250	80.0	85.3	86.3	89.5	90.2	90.6	91.4	89.9	90.6	96.1	103.8	104.7	105.2	139.1
1600	81.3	83.7	83.6	85.1	86.2	86.3	88.9	90.0	92.1	96.4	104.3	105.5	106.2	139.6
2000	86.8	87.7	88.1	87.5	86.3	85.9	87.9	90.0	92.3	96.9	103.1	104.9	105.2	139.0
2500	84.0	85.8	87.3	88.6	88.4	87.8	88.2	91.4	93.5	98.0	101.8	103.8	104.4	138.4
3150	85.1	87.2	86.9	86.7	86.3	87.1	89.0	90.7	93.3	97.1	101.4	101.8	102.3	137.2
4000	85.8	86.2	86.6	86.9	86.5	86.7	88.3	91.4	93.2	96.4	99.4	100.2	100.8	136.1
5000	91.1	89.6	88.7	87.1	86.6	86.8	88.2	90.5	94.0	95.6	99.0	99.0	99.8	135.9
6300	91.8	91.8	90.6	90.2	88.3	86.5	88.3	91.0	93.2	93.9	97.2	98.7	98.5	135.7
8000	89.7	91.0	90.6	91.0	89.5	88.0	87.7	90.3	92.5	93.3	95.6	97.1	98.0	135.3
10000	87.7	89.4	89.7	90.0	89.2	89.7	89.2	89.7	91.3	92.2	93.6	97.1	98.1	135.3
12500	87.2	87.6	88.9	89.1	87.4	88.4	88.0	89.1	90.2	88.9	91.1	95.7	96.9	134.7
16000	85.8	87.8	87.2	88.2	86.4	86.3	86.9	88.5	89.1	86.9	88.8	93.1	94.4	134.4
20000	84.4	86.1	86.8	87.8	86.3	85.1	85.4	85.5	86.9	84.8	87.1	90.8	92.7	134.6
25000	81.3	84.4	85.4	87.2	85.6	84.9	84.3	83.4	84.9	83.1	83.6	88.6	88.9	135.2
31500	74.8	78.9	79.7	83.3	81.8	81.6	79.9	78.7	79.4	78.6	78.6	82.5	82.7	133.6
40000	71.4	75.1	77.1	79.6	79.1	79.2	78.6	76.5	76.9	75.5	75.6	79.8	79.1	134.8
50000	68.0	72.2	73.8	75.5	75.9	76.6	75.1	73.4	73.2	71.9	72.0	76.5	75.9	135.9
63000	63.3	68.1	69.2	71.2	71.0	72.7	69.9	69.9	69.4	67.8	68.6	71.9	71.9	136.9
80000	55.7	64.8	63.3	64.4	64.7	66.6	64.2	63.7	63.7	62.4	63.4	66.4	63.4	137.8
DASPL	99.4	100.3	100.1	100.6	99.9	99.5	100.7	102.1	103.8	108.9	112.3	114.1	114.6	150.4
PNL	111.6	112.2	111.6	111.7	111.3	110.8	112.6	114.6	116.3	120.6	124.5	126.1	126.7	
PNLT	114.2	114.1	113.4	112.4	112.7	112.6	114.3	115.2	116.3	121.8	124.5	126.1	126.7	
DBA	178.2	185.9	185.1	186.6	186.7	188.5	186.1	185.5	185.4	184.1	185.0	188.1	186.3	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICLE = ADH286 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1699.6 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = FPS AE18 = 0. SQ IN

RUNPT = 82F-ZER-0301 TAPE = X0301F TEST PT NO = 0301 NC = AEO61 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0301 X03011

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.7	75.1	76.7	77.5	75.7	73.7	74.2	75.7	77.7	82.7	88.0	88.2	84.8	163.4
63	66.0	72.9	75.0	78.8	80.0	80.5	81.2	79.2	79.2	83.7	89.8	88.5	85.7	164.6
80	67.3	71.2	72.2	74.4	76.0	76.2	78.7	79.3	80.7	84.0	90.3	89.2	86.6	165.1
100	72.7	75.2	76.7	76.8	76.0	75.8	77.6	79.3	80.9	84.4	89.1	88.6	85.5	164.5
125	69.9	73.2	75.9	77.9	78.1	77.6	77.9	80.6	82.0	85.4	87.6	87.4	84.4	163.9
160	70.8	74.5	75.4	75.9	75.9	76.9	78.6	79.9	81.7	84.5	87.1	85.2	82.0	162.7
200	71.4	73.4	74.9	76.1	76.0	76.3	77.8	80.5	81.6	83.6	85.0	83.4	80.1	161.6
250	76.4	76.6	76.9	76.1	76.1	76.4	77.7	79.6	82.3	82.7	84.3	81.8	78.6	161.4
315	76.9	78.7	78.8	79.1	77.7	76.1	77.7	79.9	81.4	80.8	82.3	81.2	76.7	161.2
400	74.6	77.8	78.7	80.0	78.9	77.6	77.1	79.3	80.6	80.2	80.6	79.2	75.5	160.8
500	72.6	76.3	77.9	79.1	78.8	79.5	78.8	78.7	79.5	79.0	78.5	79.0	75.1	160.8
630	72.3	74.7	77.5	78.5	77.4	78.6	78.0	78.6	78.8	76.1	76.2	77.6	73.5	160.2
800	71.5	75.7	76.6	78.5	77.2	77.4	77.8	78.8	78.5	74.8	74.6	75.5	71.0	159.9
1000	71.1	75.1	77.3	79.3	78.4	77.4	77.5	77.1	77.4	73.8	73.7	73.8	69.5	160.1
1250	69.3	74.8	77.5	80.3	79.3	78.9	78.1	76.5	77.0	73.6	71.6	72.7	66.0	160.7
1600	64.2	71.1	73.7	78.4	77.6	77.6	75.7	73.9	73.4	70.7	68.0	67.5	59.8	159.1
2000	62.5	69.3	73.4	77.2	77.4	77.7	76.9	74.1	73.2	69.8	66.7	65.8	55.9	160.3
2500	59.9	67.8	71.8	75.0	76.2	77.2	75.4	72.9	71.2	67.6	63.9	62.4	50.4	161.4
3150	54.8	64.3	68.2	72.1	73.0	74.9	71.8	70.8	68.4	63.9	60.1	55.7	40.9	162.4
4000	44.6	59.8	62.2	65.7	67.3	69.6	66.8	65.0	62.7	57.5	52.3	44.9	21.6	163.3
5000														
6300														
8000														
10000														
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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DASPL	84.4	87.4	88.9	90.6	90.2	90.3	90.5	91.1	92.2	93.9	97.5	96.7	93.5	175.2
PNL	89.6	93.6	96.2	98.8	99.1	99.7	98.7	97.9	97.6	97.1	98.3	97.5	93.3	
PNLT	90.3	93.6	96.2	98.8	99.1	99.7	98.7	97.9	97.6	97.1	98.3	97.5	94.4	
DBA	79.5	83.5	85.6	88.1	87.6	87.7	86.9	86.4	86.7	84.9	85.3	84.9	80.7	

MODEL AREA = 25.6 SQ CM ( 4.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 18.776 FREQ SHIFT = -13

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH286	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 74.00	PAMB HG = 29.40	RELHUM = 58.3 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =
FNIN1 =	LBS XNL =	RPM	XNH1 =	RPM	V8 = 1699.6 FPS
FNRAMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = FPS
					AE8 = 4.0 SQ IN
					AE18 = 0. SQ IN

RUNPT = 82F-ZER-0301 TAPE = X03011 TEST PT NO = 0301 NC = AE061 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0302 X0302C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50									73.7	94.1			93.3	126.2
63									81.6	103.7	80.0			134.5
80									80.8				90.4	118.8
100									75.3			77.4	92.4	120.1
125									72.9				90.1	117.6
160									72.5	82.6	76.8	78.5	92.1	120.8
200								73.9	74.2	86.1	77.6	80.7	88.4	120.3
250									74.8	76.9	81.4	83.8	86.2	118.1
315									75.9	85.8	82.8	84.6	85.6	120.5
400		69.2	68.0					73.8	77.1	80.9	86.0	86.8	83.2	120.6
500	65.5	73.2	69.4	71.8	71.8	71.7		75.4	78.4	84.0	88.9	87.6	82.9	122.8
630	65.9	70.4	70.7	72.5	72.7	73.2	75.4	77.4	79.4	86.7	91.9	88.8	84.3	125.1
800	68.9	73.5	72.3	74.7	74.9	75.1	77.2	79.9	81.8	89.0	95.2	90.3	85.6	127.8
1000	74.0	76.5	75.1	75.8	76.2	76.6	78.8	80.9	84.4	91.2	96.9	92.3	86.0	129.6
1250	74.0	77.6	77.6	78.2	78.6	78.9	81.1	82.9	86.3	92.6	97.8	92.9	87.7	130.7
1600	73.4	75.2	76.9	77.8	79.7	80.8	82.9	84.6	88.1	92.6	98.5	93.0	88.0	131.3
2000	75.3	76.3	77.4	78.6	79.3	80.4	83.2	85.6	88.3	92.8	97.1	91.2	86.5	130.5
2500	76.9	78.9	79.5	80.2	81.0	81.6	83.6	87.3	90.2	94.7	95.5	89.8	85.2	130.7
3150	80.8	80.6	79.6	81.0	81.2	82.1	85.3	86.9	90.5	93.6	95.9	89.8	84.9	130.7
4000	83.0	83.7	82.5	82.3	81.6	82.9	84.8	88.0	90.7	92.8	94.4	90.0	85.9	130.5
5000	89.3	90.6	87.4	85.3	83.2	83.3	84.7	87.7	91.3	92.5	94.5	90.5	86.7	131.7
6300	89.0	90.3	90.4	89.9	87.0	84.0	85.6	87.8	91.0	91.5	93.4	90.7	87.2	132.3
8000	85.4	87.5	88.3	90.0	87.9	87.2	85.8	88.2	90.3	90.9	92.3	89.3	87.2	132.0
10000	84.7	86.7	86.7	87.4	87.1	87.9	87.9	88.1	90.3	90.5	91.8	91.1	87.8	132.3
12500	84.4	85.1	86.1	86.5	84.8	86.3	86.7	88.3	89.7	89.1	91.4	90.7	88.4	132.3
16000	83.3	85.5	85.2	86.4	84.8	84.0	85.1	87.2	88.8	88.1	89.8	89.6	87.2	132.6
20000	82.4	84.4	83.8	85.5	84.3	83.8	83.9	85.0	87.4	86.0	88.1	88.3	86.4	133.0
25000	79.5	82.4	83.1	85.4	83.8	83.1	84.1	83.8	85.4	84.8	85.4	86.4	83.4	134.1
31500	73.1	76.9	77.7	81.8	79.8	79.9	79.1	79.2	80.9	79.8	80.6	81.2	76.7	132.7
40000	69.2	73.8	74.8	77.4	77.6	77.7	77.6	77.0	77.9	75.5	77.1	76.8	72.9	133.7
50000	66.0	69.9	70.6	73.3	73.6	74.4	73.8	73.7	74.7	72.1	72.2	72.8	67.4	134.3
63000	61.2	66.3	65.4	69.1	69.8	70.4	69.4	69.9	70.3	68.2	68.6	67.4	62.1	135.5
80000	53.0	62.9		62.3	62.7	64.7	62.8	63.6	64.7	62.1	62.3	60.2	52.8	135.9
OASPL	95.5	97.1	96.7	97.3	95.9	95.8	96.7	98.6	101.4	107.0	107.1	103.3	102.4	146.2
PNL	107.0	108.6	107.8	107.6	106.0	105.2	106.9	109.9	113.5	117.1	119.1	114.6	112.3	
PNLT	108.1	109.8	107.8	107.6	106.0	105.2	106.9	113.3	113.5	123.8	125.7	121.3	112.3	
DBA	94.5	95.9	95.1	95.2	93.8	93.8	95.2	97.5	100.5	103.8	107.2	102.5	98.2	

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH285 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1712.5 FPS A58 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1767.2 FPS AE18 = 0. SQ IN  
RUNPT = 82F-400-0302 TAPE = X0302C TEST PT NO = 0302 NC = AEO61 CORR TAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0302 X0302F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	73.3	75.6	72.9	75.1	73.4	71.7	73.5	70.2	72.4	81.4	77.9	80.2	83.0	118.4
315	73.3	75.6	72.9	75.1	73.6	71.9	74.1	71.0	74.7	77.6	82.3	83.8	82.7	119.2
400	73.2	75.6	73.0	75.2	73.6	71.9	74.6	71.8	76.7	81.8	86.6	86.6	85.3	121.8
500	73.1	78.6	73.0	75.2	73.3	72.0	74.7	73.7	78.0	84.9	90.1	88.8	88.8	124.4
630	71.0	77.9	73.2	74.5	74.7	73.6	74.8	75.8	80.8	87.6	94.1	91.7	92.7	127.7
800	73.6	76.8	75.7	76.0	76.9	75.7	76.6	78.4	83.8	90.2	96.3	94.8	95.4	130.3
1000	76.3	79.7	77.3	78.2	77.9	77.2	78.4	79.5	85.5	91.3	96.8	95.0	96.8	131.1
1250	79.0	80.9	78.6	78.4	80.8	79.7	80.9	81.4	87.8	91.9	98.2	95.7	97.7	132.2
1600	80.5	83.4	82.3	81.6	82.1	81.9	82.9	83.5	88.5	92.7	97.5	94.7	97.0	132.1
2000	81.1	81.7	82.1	81.7	81.9	81.7	83.5	84.9	91.1	95.5	97.0	94.6	97.2	132.7
2500	83.0	82.8	82.7	82.6	83.9	83.2	84.2	87.0	91.9	94.9	97.9	95.2	97.5	133.2
3150	84.5	85.5	84.9	84.4	84.1	84.1	86.4	87.1	92.6	94.1	95.9	94.4	97.3	132.8
4000	86.3	85.7	84.0	84.7	84.7	85.4	86.9	89.1	92.0	92.8	95.0	94.1	97.2	132.6
5000	88.3	88.5	86.7	85.8	86.7	86.3	86.1	87.7	91.8	91.8	94.1	94.4	97.8	132.8
6300	96.2	96.7	92.6	89.5	90.5	87.0	87.0	87.8	91.2	91.4	93.1	93.2	98.0	135.2
8000	94.8	95.4	94.7	93.6	91.9	90.2	87.2	88.2	91.4	91.2	92.8	95.0	98.8	136.1
10000	91.7	93.4	93.5	94.3	91.1	90.9	89.3	88.1	91.1	90.0	92.6	94.9	99.6	136.3
12500	91.2	92.6	91.8	91.6	86.7	89.3	88.1	88.3	90.7	89.5	91.6	94.4	98.9	136.0
16000	89.5	89.8	90.3	89.9	88.6	87.0	86.5	87.2	89.7	87.8	90.2	93.5	98.5	136.1
20000	87.5	89.4	88.6	89.2	88.2	86.8	85.3	85.0	88.3	87.3	88.2	92.2	96.1	136.4
25000	86.5	88.1	86.9	87.9	87.9	86.1	85.5	83.8	84.6	83.0	84.1	87.8	90.2	136.5
31500	84.1	86.2	86.1	87.3	83.8	82.9	80.5	79.2	82.5	79.6	81.5	84.2	87.2	137.1
40000	76.8	79.9	79.7	82.9	81.7	80.7	79.0	77.0	79.6	76.6	77.0	80.6	82.2	137.1
50000	72.5	76.4	76.5	78.1	77.7	77.4	75.3	73.7	76.2	73.6	74.3	76.1	77.8	137.6
63000	68.3	71.5	71.3	73.0	73.8	73.4	70.8	69.9	74.6	72.0	72.6	73.7	73.2	139.2
80000	62.0	66.5	64.7	67.4	67.3	67.7	65.3	65.5	64.8	62.2	62.8	63.8	63.4	139.2
OASPL	101.5	102.5	101.2	100.9	99.6	98.6	98.0	98.6	102.4	104.1	107.5	106.6	109.7	148.9
PNL	112.9	113.6	110.9	109.5	109.7	108.0	108.9	110.3	114.3	116.4	119.5	117.9	120.6	
PNLT	113.7	114.4	110.9	109.9	109.7	108.0	108.9	110.3	114.3	116.4	119.5	117.9	120.6	
DBA	184.0	188.1	186.9	189.2	189.3	189.5	187.0	186.8	188.1	185.5	186.1	187.2	187.1	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH285 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1712.5 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1767.2 FPS AE18 = 0. SQ IN

RUNPT = 82F-400-0302 TAPE = X0302F TEST PT NO = 0302 NC = AF061 CORR FAN SPEED = RPM

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0302 X03021

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	62.3	67.3	65.9	67.6	67.6	67.1	68.2	68.8	74.1	78.9	82.9	78.9	77.3	156.6
63	65.0	68.4	67.3	67.8	70.6	69.6	70.6	70.8	76.4	79.5	84.2	79.5	78.1	157.7
80	66.5	70.9	70.9	71.0	71.9	71.8	72.7	72.8	77.1	80.3	83.5	78.4	77.4	157.5
100	67.0	69.2	70.7	71.0	71.7	71.5	73.2	74.2	79.7	83.0	83.0	78.3	77.5	158.2
125	68.8	70.3	71.3	71.8	73.6	73.0	73.9	76.3	80.4	82.4	83.8	78.7	77.6	158.7
160	70.2	72.8	73.3	73.6	73.7	73.8	76.0	76.3	81.0	81.4	81.6	77.8	77.0	158.3
200	71.8	72.9	72.4	73.8	74.3	75.1	76.4	78.2	80.3	80.0	80.6	77.2	76.6	158.1
250	73.7	75.5	74.9	74.9	76.2	75.9	75.6	76.7	80.0	78.8	79.4	77.2	76.6	158.3
315	81.3	83.6	80.7	78.4	79.9	76.6	76.4	76.8	79.3	78.3	78.3	75.6	76.2	160.7
400	79.7	82.2	82.8	82.5	81.3	79.7	76.6	77.1	79.5	78.0	77.8	77.2	76.3	161.6
500	76.7	80.3	81.7	83.4	80.7	80.6	78.9	77.1	79.3	76.9	77.5	76.9	76.6	161.8
630	76.3	79.7	80.3	81.1	78.7	79.5	78.1	77.8	79.3	76.7	76.7	76.4	75.5	161.4
800	75.2	77.7	79.6	80.2	79.4	78.1	77.4	77.5	79.1	75.7	76.0	75.8	75.1	161.5
1000	74.1	78.4	79.1	80.7	80.3	79.1	77.4	76.5	78.9	76.2	74.8	75.2	72.9	161.9
1250	74.4	78.6	79.0	81.0	81.6	80.1	79.2	77.0	76.8	73.5	72.1	71.8	67.4	162.0
1600	73.5	78.3	80.0	82.5	79.6	78.9	76.3	74.4	76.5	71.7	70.9	69.2	64.4	162.6
2000	67.9	74.1	76.0	80.4	79.9	79.2	77.3	74.5	75.9	70.8	68.1	66.6	58.9	162.5
2500	64.4	72.0	74.5	77.6	78.0	78.0	75.6	73.2	74.2	69.2	66.2	62.0	52.3	163.1
3150	59.8	67.7	70.4	73.9	75.7	75.7	72.7	70.8	73.7	68.1	64.1	57.5	42.2	164.7
4000	51.0	61.6	63.6	68.7	69.9	70.8	67.9	66.8	63.7	57.2	51.8	42.4	21.6	164.7
5000														
6300														
8000														
10000														
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.1	90.1	90.5	91.6	90.9	90.1	88.9	88.6	91.3	91.2	92.6	89.2	88.2	174.3
PNL	93.3	97.4	98.6	100.7	100.3	100.0	98.2	96.9	98.9	95.8	95.4	93.2	91.3	
PNLT	94.0	98.2	98.6	100.7	100.3	100.0	98.2	96.9	99.9	96.9	96.5	94.4	92.5	
DBA	83.8	87.6	88.6	90.4	89.6	88.9	87.1	85.8	87.4	84.4	83.9	82.9	81.5	

MODEL AREA = 25.6 SQ CM ( 4.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 18.776 FREQ SHIFT = -13

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH285	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 74.00	PAMB HG = 29.40	RELHUM = 58.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1712.5 FPS	AE8 =	4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 1767.2 FPS	AE18 =	0. SQ IN

RUNPT = 82F-400-0302 TAPE = X03021 TEST PT NO = 0302 NC = AE061 CORR FAN SPEED = RPM

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0311 XO311C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.3	82.6	81.3	81.9	81.2	80.3	84.7	86.1	86.3	95.9	94.0	93.7	94.4	131.3
63	90.7	89.0	87.0	87.8	89.6	87.7	91.1	92.0	91.7	104.5	98.7	98.1	98.5	138.0
80	87.4	92.0	88.2	89.5	89.1	90.2	91.9	91.3	91.5	92.6	93.9	96.1	97.8	134.0
100	87.7	93.8	89.5	92.6	92.9	91.5	93.2	95.3	93.0	96.1	97.5	100.7	103.3	137.4
125	84.7	88.7	90.7	92.7	92.8	92.5	93.6	94.5	94.2	97.5	102.7	105.6	106.8	140.1
160	85.9	83.5	88.5	88.8	89.4	88.5	95.1	91.3	93.0	98.3	103.4	106.6	109.0	140.9
200	86.8	86.6	87.1	89.2	90.3	91.4	94.5	94.4	98.1	100.2	105.3	108.8	111.4	143.1
250	85.8	90.6	90.1	90.9	90.5	91.8	95.7	97.6	98.8	105.6	110.8	113.2	113.4	146.8
315	86.9	89.7	89.2	91.6	93.6	93.7	98.3	97.5	101.2	108.2	112.9	115.1	115.0	148.7
400	87.0	90.8	91.0	92.5	93.2	93.0	106.4	98.3	102.3	111.1	115.0	117.2	115.6	150.8
500	88.7	91.0	91.8	93.8	93.7	94.8	97.9	99.3	104.3	112.9	117.3	117.4	115.6	151.7
630	89.9	91.5	92.7	94.6	95.4	96.2	97.6	100.5	104.7	114.5	118.7	118.9	116.3	153.0
800	92.9	93.2	95.2	96.2	96.6	97.0	99.1	103.0	107.0	115.3	119.7	119.1	116.5	153.8
1000	100.2	101.0	100.2	99.9	98.6	98.2	100.6	103.3	108.2	114.6	119.9	119.9	117.3	154.2
1250	99.0	103.3	103.3	105.2	103.7	102.8	103.2	104.6	109.3	114.4	120.0	119.2	116.7	154.2
1600	102.0	100.2	100.8	100.8	101.7	101.8	103.4	105.7	110.3	113.7	120.3	119.0	116.0	154.1
2000	107.8	105.4	104.8	102.7	100.5	100.9	103.6	106.0	109.8	113.4	119.9	116.4	112.5	153.3
2500	107.5	107.2	107.8	107.6	104.4	102.1	103.7	107.3	111.0	115.0	119.5	115.1	110.8	153.6
3150	103.9	104.7	106.2	107.2	107.3	105.4	104.5	107.0	110.0	114.6	117.9	113.0	109.8	152.6
4000	101.0	101.5	103.3	104.9	105.7	106.2	105.3	107.4	110.5	113.9	115.7	111.5	108.2	151.5
5000	100.6	101.3	102.7	103.3	103.6	104.8	107.0	107.5	110.3	113.1	115.2	110.5	107.8	151.1
6300	98.7	100.0	101.6	102.6	103.5	103.0	105.5	109.0	109.0	111.8	113.4	109.2	106.7	150.2
8000	96.9	99.2	100.3	101.7	102.2	102.7	104.2	108.2	108.2	110.5	111.8	107.3	105.4	149.4
10000	94.9	98.1	99.6	101.1	101.4	102.6	104.4	106.8	107.7	110.0	110.8	107.0	104.5	149.2
12500	92.8	95.4	97.7	99.9	99.5	101.0	102.3	104.8	106.6	107.2	109.5	105.8	103.8	148.3
16000	90.3	94.3	95.4	98.0	97.6	98.4	100.2	102.8	104.1	104.9	107.1	103.4	101.0	147.4
20000	88.1	91.0	92.7	95.7	95.8	96.8	98.4	100.2	101.8	101.9	105.0	101.5	99.6	146.9
25000	84.9	88.9	90.4	93.5	93.9	94.7	96.9	98.2	100.2	101.3	101.4	99.2	95.0	147.2
31500	79.1	83.8	84.8	89.2	88.5	89.8	91.1	93.2	95.8	97.9	98.0	94.7	89.2	146.0
40000	75.8	80.9	82.6	85.9	85.7	87.1	88.4	90.6	93.9	97.7	97.6	92.4	86.8	148.7
50000	71.9	77.2	79.3	82.1	82.5	84.0	85.0	87.5	91.7	96.9	95.8	90.9	83.6	151.2
63000	67.8	75.4	75.4	77.4	78.6	80.0	80.9	85.7	90.3	95.5	94.9	88.5	80.9	155.0
80000	61.9	74.1	71.7	71.8	72.4	75.5	76.1	81.0	86.4	93.3	91.8	84.0	73.6	158.8
OASPL	113.6	113.7	114.4	115.1	114.7	114.6	116.4	118.3	121.0	125.7	129.9	128.7	126.5	166.4
PNL	127.1	127.4	128.1	128.7	128.6	128.1	129.2	130.9	133.8	138.3	142.1	139.3	136.9	
PNLT	128.5	129.2	128.1	130.3	129.8	128.1	130.6	130.9	133.8	138.3	142.1	139.3	136.9	
DBA	114.3	114.2	114.9	115.4	114.8	114.3	115.6	117.9	120.9	125.4	129.9	128.0	125.3	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH271	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1692.1 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2289.1 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0311	TAPE = XO311C	TEST PT NO = 0311	NC = AE061	CORR FAN SPEED =	RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0311 XO311F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.3	82.6	81.3	81.9	81.2	80.3	84.7	86.1	86.3	95.9	94.0	93.7	94.4	131.3
63	90.7	89.0	87.0	87.8	89.6	87.7	91.1	92.0	91.7	104.5	98.7	98.1	98.5	138.0
80	87.4	92.0	88.2	89.5	89.1	90.2	91.9	91.3	91.5	92.6	93.9	96.1	97.8	134.0
100	87.7	93.8	89.5	92.6	92.9	91.5	93.2	95.3	93.0	96.1	97.5	100.7	103.3	137.4
125	84.7	88.7	90.7	92.7	92.8	92.5	93.6	94.5	94.2	97.5	102.7	105.6	106.8	140.1
160	85.9	83.5	88.5	88.8	89.4	88.5	95.1	91.3	93.0	98.3	103.4	106.6	109.0	140.9
200	86.8	86.6	87.1	89.2	90.3	91.4	94.5	94.4	98.1	100.2	105.3	108.8	111.4	143.1
250	85.8	90.6	90.1	90.9	90.5	91.8	95.7	97.6	98.8	105.6	110.8	113.2	113.4	146.8
315	86.9	89.7	89.2	91.6	93.6	93.7	98.3	97.5	101.2	108.2	112.9	115.1	115.0	148.7
400	87.0	90.8	91.0	92.5	93.2	93.0	106.4	98.3	102.3	111.1	115.0	117.2	115.6	150.8
500	88.7	91.0	91.8	93.8	93.7	94.8	97.9	99.3	104.3	112.9	117.3	117.4	115.6	151.7
630	89.9	91.5	92.7	94.6	95.4	96.2	97.6	100.5	104.7	114.5	118.7	118.9	116.3	153.0
800	92.9	93.2	95.2	96.2	96.6	97.0	99.1	103.0	107.0	115.3	119.7	119.1	116.5	153.8
1000	100.2	101.0	100.2	99.9	98.6	98.2	100.6	103.3	108.2	114.6	119.9	119.9	117.3	154.2
1250	99.0	103.3	103.3	105.2	103.7	102.8	103.2	104.6	109.3	114.4	120.0	119.2	116.7	154.2
1600	102.0	100.2	100.8	100.8	101.7	101.8	103.4	105.7	110.3	113.7	120.3	119.0	116.0	154.1
2000	107.8	105.4	104.8	102.7	100.5	100.9	103.6	106.0	109.8	113.4	119.9	116.4	112.5	153.3
2500	107.5	107.2	107.3	107.6	104.4	102.1	103.7	107.3	111.0	115.0	119.5	115.1	110.8	153.6
3150	103.9	104.7	106.2	107.2	107.3	105.4	104.5	107.0	110.0	114.6	117.9	113.0	109.8	152.6
4000	101.0	101.5	103.3	104.9	105.7	106.2	105.3	107.4	110.5	113.9	115.7	111.5	108.2	151.5
5000	100.6	101.3	102.7	103.3	103.6	104.8	107.0	107.5	110.3	113.1	115.2	110.5	107.8	151.1
6300	98.7	100.0	101.6	102.6	103.5	103.0	105.5	109.0	109.0	111.8	113.4	109.2	106.7	150.2
8000	96.9	99.2	100.3	101.7	102.2	102.7	104.2	108.2	108.2	110.5	111.8	107.3	105.4	149.4
10000	94.9	98.1	99.6	101.1	101.4	102.6	104.4	106.8	107.7	110.0	110.8	107.0	104.5	149.2
12500	92.8	95.4	97.7	99.9	99.5	101.0	102.3	104.8	106.6	107.2	109.5	105.8	103.8	148.3
16000	90.3	94.3	95.4	98.0	97.6	98.4	100.2	102.8	104.1	104.9	107.1	103.4	101.0	147.4
20000	88.1	91.0	92.7	95.7	95.8	96.8	98.4	100.2	101.8	101.9	105.0	101.5	99.6	146.9
25000	84.9	88.9	90.4	93.5	93.9	94.7	96.9	98.2	100.2	101.3	101.4	99.2	95.0	147.2
31500	79.1	83.8	84.8	89.2	88.5	89.8	91.1	93.2	95.8	97.9	98.0	94.7	89.2	146.0
40000	75.8	80.9	82.6	85.9	85.7	87.1	88.4	90.6	93.9	97.7	97.6	92.4	86.8	148.7
50000	71.9	77.2	79.3	82.1	82.5	84.0	85.0	87.5	91.7	96.9	95.8	90.9	83.6	151.2
63000	67.8	75.4	75.4	77.4	78.6	80.0	80.9	85.7	90.3	95.5	94.9	88.5	80.9	155.0
80000	61.9	74.1	71.7	71.8	72.4	75.5	76.1	81.0	86.4	93.3	91.8	84.0	73.6	158.8
DASPL	113.6	113.7	114.4	115.1	114.7	114.6	116.4	118.3	121.0	125.7	129.9	128.7	126.5	166.4
PNL	127.1	127.4	128.1	128.7	128.6	128.1	129.2	130.9	133.8	138.3	142.1	139.3	136.9	
PNLT	128.5	129.2	128.1	130.3	129.8	128.1	130.6	130.9	133.8	138.3	142.1	139.3	136.9	
DBA	183.7	194.8	192.8	193.6	194.3	196.9	197.6	202.3	207.5	214.0	212.7	205.3	195.8	

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MODEL/FULL SCALE FAC - IN=1.000. CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH271	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	DEG WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE PR =	NBFR =
FN:NI =	LBS XNL =	RPM XNH =	RPM V8 = 1692.1 FPS	AE8 = 4.0 SQ IN	
FN:RMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2289.1 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0311 TAPE = XO311F TEST PT NO = 0311 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY. SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0311 X03111

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	65.6	70.9	72.2	74.4	75.5	75.5	88.7	80.2	83.5	91.2	93.6	93.6	88.6	168.8
63	67.3	71.1	73.0	75.7	76.0	77.2	80.2	81.2	85.5	93.0	95.8	93.8	88.6	169.7
80	68.4	71.5	73.9	76.5	77.6	78.6	79.9	82.4	85.9	94.6	97.2	95.1	89.2	171.1
100	71.4	73.2	76.3	78.1	78.8	79.3	81.3	84.8	88.1	95.3	98.1	95.3	89.3	171.8
125	78.5	80.9	81.2	81.6	80.8	80.5	82.8	85.0	89.2	94.5	98.3	95.9	89.8	172.2
160	77.1	83.0	84.2	86.8	85.7	85.0	85.2	86.2	90.2	94.1	98.1	95.0	88.8	172.2
200	79.9	79.7	81.5	82.3	83.6	83.8	85.3	87.2	91.0	93.2	98.2	94.4	87.6	172.1
250	85.3	84.7	85.3	84.0	82.2	82.7	85.3	87.2	90.3	92.6	97.4	91.5	83.5	171.4
315	84.6	86.2	88.0	88.6	85.8	83.6	85.1	88.3	91.1	93.9	96.7	89.6	81.1	171.7
400	80.5	83.2	86.0	87.9	88.4	86.6	85.6	87.6	89.8	93.1	94.5	86.9	79.0	170.7
500	77.2	79.6	82.8	85.3	86.5	87.1	86.1	87.7	89.9	92.1	91.8	84.7	76.5	169.5
630	76.2	79.0	81.8	83.4	84.2	85.5	87.5	87.6	89.4	90.8	90.9	83.0	74.9	169.2
800	73.9	77.4	80.4	82.4	83.9	83.5	85.9	88.7	87.8	89.2	88.6	81.0	72.7	168.3
1000	71.6	76.2	78.9	81.3	82.3	83.1	84.3	87.9	86.8	87.6	86.5	78.4	70.3	167.4
1250	69.1	74.8	78.0	80.6	81.4	82.8	84.4	86.2	86.1	86.8	85.0	77.3	68.0	167.3
1600	66.1	71.5	75.7	79.0	79.3	81.0	82.1	83.8	84.5	83.4	82.8	74.8	64.9	166.4
2000	62.7	69.8	73.0	76.8	77.2	78.2	79.8	81.7	81.7	80.4	79.5	70.8	59.0	165.4
2500	58.7	65.3	69.3	73.9	74.8	76.1	77.4	78.4	78.5	76.2	75.6	66.0	52.8	164.9
3150	52.1	60.7	65.2	70.1	71.6	72.7	74.6	74.8	75.0	73.2	68.7	58.8	39.7	165.2
4000	40.1	50.9	55.8	62.6	63.2	64.9	65.8	66.5	66.8	65.0	59.0	45.3	19.5	164.0
5000	27.0	40.5	47.4	53.9	55.4	57.3	58.1	58.5	58.7	57.3	48.8	29.3		166.7
6300	5.3	22.6	32.0	39.3	42.1	44.4	44.6	44.7	44.4	42.2	29.2	3.7		169.3
8000			6.7	15.3	20.0	22.6	22.4	23.6	21.7	16.0				173.0
10000														176.8
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	90.6	92.4	94.2	95.7	95.6	95.5	97.2	98.6	100.8	104.5	107.4	103.9	97.8	184.3
PNL	94.9	97.8	100.2	102.1	102.5	102.5	103.8	105.4	106.7	109.0	110.6	105.4	97.9	
PNLT	95.7	98.7	100.7	102.9	103.1	102.5	103.8	105.4	106.7	109.6	111.6	106.4	97.9	
DBA	84.2	86.8	89.4	91.3	91.8	92.3	93.4	95.4	96.1	97.6	98.6	92.2	84.6	
MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.973      FREQ SHIFT = -9														
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166														
VEHICL	= ADH271		TEST DATE	= 08-25-82		LOCAT	= C41 ANECH CH		CONFIG	= 3		MODEL	= AX	
IAPLHA	= SB59		IEGA	= NO		PWL AREA	= FULL SPHERE		TAMB F	= 71.00		PAMB HG	= 29.40	
WIND DIR	=		DEG	WIND VEL	= MPH		EXT DIST	= 2400.0 FT		EXT CONFIG	= SL		MIKE HT	=
FNIN1	=		LBS	XNL	=		RPM	XNH	=		RPM	VB	= 1692.1 FPS	
FNRAMB	=		LBS	XNLR	=		RPM	XNHR	=		RPM	V18	= 2289.1 FPS	
AE8 = 4.0 SQ IN														
AE18 = 18.0 SQ IN														
RUNPT = 82F-ZER-0311    TAPE = X03111    TEST PT NO = 0311    NC = AE061    CORR FAN SPEED =    RPM														

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0312 X0312C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.3	83.3	81.3	81.6	81.0	79.8	81.0	82.1	87.1	92.2	90.5	90.5	99.4	130.5
63	91.4	88.2	88.2	84.3	89.9	85.7	87.4	88.3	92.2	100.5	91.9	91.6	98.8	134.8
80	88.2	92.2	88.5	90.3	89.6	91.0	91.6	91.3	92.0	91.3	93.2	95.6	100.0	134.3
100	86.7	92.8	88.0	90.6	90.7	90.5	91.7	93.1	92.0	92.6	95.7	99.7	102.8	136.0
125	84.4	87.4	89.0	90.7	91.3	91.2	92.1	92.7	92.0	94.0	99.7	103.6	106.0	138.2
160	83.7	81.0	86.2	87.1	86.9	86.2	93.6	88.3	89.7	95.0	100.7	104.4	107.5	138.8
200	85.1	84.1	84.1	85.4	86.3	88.4	91.0	90.9	94.6	95.7	101.1	106.0	108.9	140.1
250	81.8	85.3	84.6	87.1	87.2	88.3	91.7	93.1	94.8	100.2	106.5	109.5	110.4	143.0
315	84.1	85.4	85.4	87.6	88.1	89.7	94.3	93.2	97.4	103.3	108.4	111.3	110.7	144.5
400	83.5	86.0	87.0	88.2	88.9	89.0	101.2	94.1	98.3	106.1	111.5	112.9	109.3	146.3
500	84.7	86.8	87.8	90.0	89.9	90.8	93.7	95.8	100.1	108.1	113.5	113.4	106.6	147.3
630	84.7	87.2	88.7	90.4	90.6	91.7	94.1	97.3	101.2	110.0	114.4	113.1	103.5	147.9
800	86.4	88.0	89.7	91.2	91.9	93.2	95.4	98.8	103.5	111.1	115.4	110.9	100.0	148.3
1000	90.7	90.2	91.5	92.4	93.4	94.2	96.6	100.0	105.0	111.1	114.9	109.4	98.5	147.9
1250	92.8	94.5	94.6	95.0	94.7	95.6	98.2	100.9	105.6	111.4	113.5	107.9	98.5	147.4
1600	102.0	100.9	98.6	96.3	96.0	96.8	99.7	102.0	107.1	109.9	113.8	106.7	98.7	147.6
2000	104.3	105.4	104.8	102.7	98.3	97.2	99.6	103.0	107.3	109.6	113.6	105.7	98.7	148.2
2500	102.5	104.5	105.6	106.6	104.7	100.3	100.0	104.1	108.0	111.3	112.8	106.1	98.6	148.9
3150	98.9	100.4	102.2	104.2	105.3	104.9	103.3	104.2	107.0	110.9	112.9	106.3	98.8	148.7
4000	96.8	98.0	99.6	100.9	102.2	104.2	105.1	104.9	108.0	110.4	110.9	105.7	98.5	147.9
5000	96.1	97.8	98.7	99.8	99.6	100.8	104.2	105.5	108.5	110.1	111.2	104.3	98.3	147.8
6300	94.5	96.3	97.4	98.9	100.1	99.8	102.6	106.2	108.2	109.4	109.2	103.0	96.2	147.1
8000	92.4	95.0	96.1	98.0	98.2	99.3	101.7	105.6	107.8	108.6	106.9	100.6	95.0	146.5
10000	90.5	93.7	94.9	96.7	97.2	98.7	100.7	104.4	106.5	107.4	105.9	100.1	94.1	145.9
12500	88.7	90.8	93.1	94.8	94.9	97.2	98.5	102.4	104.2	104.9	103.6	98.7	93.7	144.5
16000	85.6	89.5	90.9	93.4	94.1	94.6	96.9	100.0	102.1	101.9	101.8	96.9	91.4	143.7
20000	83.4	86.1	87.8	90.8	91.6	92.6	94.9	97.3	99.2	99.3	99.1	93.5	89.9	142.8
25000	80.0	83.4	85.4	87.9	89.1	90.4	92.8	94.6	97.1	96.9	95.1	91.9	86.1	142.6
31500	73.6	77.9	79.7	83.3	83.3	85.4	86.6	88.7	91.9	91.8	90.3	86.2	79.2	140.4
40000	70.2	75.4	76.3	79.9	80.4	82.0	83.8	85.8	88.9	90.0	87.6	81.5	75.9	141.6
50000	66.5	73.2	72.5	75.5	76.7	77.9	79.9	81.4	85.7	87.7	83.5	78.0	71.2	142.7
63000	63.0	72.6	68.9	70.9	72.0	73.4	73.9	77.7	81.9	85.3	81.4	72.9	65.6	144.8
80000	59.2	71.8	65.8	64.6	66.2	68.6	67.0	69.9	75.7	80.4	75.4	66.1	57.4	146.2
DASPL	109.7	110.9	111.3	112.0	111.7	111.6	113.3	115.4	118.6	122.0	124.8	121.8	118.4	160.7
PNL	122.7	124.3	125.1	126.1	125.9	125.7	127.0	128.1	131.4	134.6	136.9	132.2	126.5	
PNLT	123.9	124.3	125.1	127.7	125.9	125.7	128.2	128.1	131.4	134.6	136.9	132.2	126.5	
DBA	110.4	111.5	111.9	112.5	111.9	111.6	112.9	115.0	118.4	121.8	124.4	119.7	113.1	

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23,26

VEHICL = ADH278 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VB = 1690.7 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2293.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0312 TAPE = X0312C TEST PT NO = 0312 NC = AEC01 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0312 X0312F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	89.3	91.5	89.4	90.3	88.8	88.3	89.8	89.5	94.0	98.9	103.5	106.9	108.1	140.7
315	89.3	91.5	89.3	90.3	89.8	89.9	93.0	90.4	95.2	102.1	107.1	109.3	108.2	142.8
400	91.6	91.6	90.3	91.0	90.7	89.3	100.1	91.5	98.4	106.0	111.4	112.6	109.2	146.2
500	90.9	92.3	91.9	91.6	91.8	91.1	93.0	94.2	99.6	108.1	112.8	113.6	108.7	147.2
630	92.4	93.2	92.8	93.5	92.6	92.1	93.3	95.4	101.9	109.2	114.0	112.3	107.7	147.5
800	92.3	93.6	93.7	93.9	93.9	93.8	94.5	96.7	103.9	109.8	114.3	112.2	108.9	148.0
1000	94.1	94.4	94.8	94.8	95.4	94.9	95.9	98.1	104.6	110.3	113.1	111.0	109.0	147.5
1250	97.3	96.0	96.1	95.7	96.6	96.4	97.6	99.1	106.4	109.1	113.7	110.1	109.6	147.7
1600	98.2	99.3	98.5	97.9	98.0	97.9	99.3	100.5	107.0	109.1	113.9	109.4	109.9	148.0
2000	109.4	107.1	103.4	99.7	100.5	98.5	99.6	101.7	107.9	111.1	113.3	110.2	110.2	149.4
2500	111.3	111.3	109.5	106.1	107.1	101.9	100.3	103.2	107.6	111.4	114.2	111.1	111.2	151.3
3150	107.6	109.1	109.5	109.8	108.6	106.9	104.0	103.8	109.3	111.5	112.7	110.9	111.1	151.4
4000	106.4	107.1	107.8	108.6	105.9	106.7	106.4	105.1	109.7	111.1	112.8	109.3	110.8	150.9
5000	104.3	104.7	105.3	105.6	103.7	103.8	105.8	105.8	109.3	110.1	110.5	107.7	108.4	149.4
6300	103.5	104.5	104.5	104.7	104.1	102.8	104.1	106.4	109.2	109.6	108.4	105.6	107.5	148.9
8000	101.8	102.9	103.1	103.6	102.3	102.3	103.6	105.9	108.2	108.7	107.7	105.4	106.9	148.4
10000	99.5	101.4	101.6	102.5	101.2	101.7	102.6	104.8	106.8	107.3	106.6	105.1	107.5	147.8
12500	97.3	99.8	100.2	101.0	99.0	100.2	100.6	103.3	105.2	104.9	105.5	103.9	105.7	147.0
16000	95.0	96.4	97.8	98.5	98.1	97.6	99.1	101.0	103.4	103.3	103.7	101.4	104.9	146.4
20000	91.5	94.7	95.2	96.8	96.2	95.6	97.3	98.8	101.6	101.2	100.1	100.2	101.7	146.0
25000	91.5	93.0	93.2	94.6	93.7	93.4	95.1	95.9	96.5	96.1	95.2	94.6	95.1	144.6
31500	87.4	89.4	90.0	91.0	87.9	88.4	88.7	89.5	93.9	94.7	92.8	90.1	92.0	144.0
40000	80.1	83.1	83.5	85.5	85.0	85.0	85.7	86.2	90.7	92.2	88.3	85.9	85.9	144.1
50000	76.3	80.2	79.7	81.7	81.3	80.9	81.4	81.5	87.8	90.7	87.1	81.7	81.3	145.7
63000	71.6	77.1	75.0	76.4	76.4	76.4	75.3	77.7	83.1	87.3	82.6	76.3	74.6	146.8
80000	65.2	74.0	69.2	69.9	69.8	71.6	68.4	69.9	73.3	77.5	72.8	66.5	64.8	145.4
OASPL	116.3	116.6	116.0	115.8	114.7	113.8	114.2	115.2	119.3	121.8	124.5	122.7	121.8	161.8
PNL	129.7	130.0	129.4	129.3	128.3	127.0	127.2	127.1	131.8	134.2	136.3	134.2	134.0	
PNLT	132.4	131.1	129.4	129.3	128.3	127.0	128.3	127.1	131.8	134.2	136.3	134.2	134.0	
DBA	187.3	195.0	191.0	192.1	191.9	193.1	190.9	192.4	196.9	200.9	196.4	190.3	189.0	

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH278 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1690.7 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2293.2 FPS AEB = 18.0 SQ IN  
 RUNPT = 82F-400-0312 TAPE = X0312F TEST PT NO = 0312 NC = AEO61 CORR FAN SPEED = RPM

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0312 X03121

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL		
50	70.2	71.8	71.5	72.9	73.1	71.7	82.4	73.4	79.6	86.2	89.9	89.0	82.3	164.2		
63	69.5	72.4	73.1	73.5	74.1	73.6	75.3	76.1	80.8	88.2	91.4	89.9	81.6	165.2		
80	70.9	73.3	73.9	75.4	74.8	74.5	75.6	77.2	83.0	89.2	92.6	88.6	80.6	165.6		
100	70.8	73.6	74.8	75.7	76.2	76.1	76.7	78.5	85.0	89.8	92.8	89.4	81.6	166.0		
125	72.4	74.3	75.8	76.6	77.5	77.2	78.0	79.8	85.6	90.2	91.4	87.1	81.5	165.5		
160	75.4	75.7	77.0	77.3	78.6	78.5	79.7	80.7	87.3	88.9	91.8	85.9	81.8	165.7		
200	76.0	78.8	79.2	79.3	79.9	79.9	81.2	81.9	87.7	88.6	91.7	84.9	81.6	166.0		
250	86.9	86.3	83.8	80.9	82.2	80.3	81.3	82.9	88.4	90.3	90.9	85.2	81.3	167.4		
315	88.5	90.3	89.6	87.0	88.5	83.5	81.7	84.1	87.8	90.3	91.3	85.6	81.4	169.3		
400	84.2	87.6	89.3	90.4	89.7	88.2	85.1	84.4	89.1	90.0	89.3	84.8	80.3	169.4		
500	82.6	85.2	87.2	89.0	86.7	87.7	87.2	85.4	89.2	89.2	89.0	82.5	79.0	168.9		
630	80.0	82.4	84.5	85.7	84.2	84.6	86.3	85.9	88.5	87.9	86.2	80.2	75.6	167.4		
800	78.7	81.9	83.3	84.5	84.4	83.3	84.4	86.2	88.0	87.0	83.6	77.4	73.6	166.9		
1000	76.6	79.9	81.7	83.2	82.4	82.6	83.7	85.5	86.8	85.8	82.5	76.5	71.8	166.4		
1250	73.8	78.1	80.0	82.0	81.3	81.9	82.6	84.3	85.2	84.0	80.9	75.4	70.9	165.9		
1600	70.7	75.9	78.1	80.1	78.7	80.1	80.4	82.4	83.1	81.0	78.8	72.9	66.8	165.0		
2000	67.4	71.9	75.4	77.4	77.7	77.4	78.6	79.8	80.9	78.8	76.1	68.8	63.0	164.5		
2500	62.1	69.0	71.9	75.0	75.2	74.9	76.3	77.0	78.3	75.5	70.7	64.7	54.8	164.0		
3150	58.8	64.9	68.0	71.3	71.3	71.4	72.8	72.5	71.3	67.9	62.5	54.1	39.8	162.7		
4000	48.4	56.6	61.0	64.3	62.6	63.5	63.4	62.8	64.9	61.8	53.7	40.7	22.3	162.0		
5000	31.3	42.7	48.2	53.4	54.7	55.2	55.4	54.1	55.4	51.8	39.5	22.8		162.2		
6300	9.7	25.6		32.4	38.8	40.8	41.2	40.9	38.6	40.4	36.1	20.5		163.7		
8000			6.3	14.3	17.9	19.0	16.8	15.6	14.5	7.9				164.9		
10000														163.4		
12500																
16000																
20000																
25000																
31500																
40000																
50000																
63000																
80000																
OASPL	93.1	95.0	95.6	96.1	95.6	94.7	94.9	95.3	98.9	100.6	102.0	97.7	91.9	179.8		
PNL	98.2	100.9	101.9	103.1	102.7	101.9	102.0	102.7	105.1	105.7	105.4	99.9	94.6			
PNLT	99.6	101.5	102.5	103.6	103.2	101.9	102.5	102.7	105.7	106.4	105.4	99.9	94.6			
DBA	88.0	90.6	91.9	93.0	92.3	91.9	92.3	93.1	95.2	94.8	93.7	87.9	83.6			
MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9																
NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166																
VEHICL	= ADH278		TEST DATE	= 08-25-82		LOCAT	= C41 ANECH CH		CONFIG	= 3		MODEL	= AX			
IAPLHA	= SB59		IEGA	= NO		PWL AREA	= FULL SPHERE		TAMB F	= 74.00		PAMB HG	= 29.40			
WIND DIR			DEG	WIND VEL	= MPH		EXT DIST	= 2400.0 FT		EXT CONFIG	= SL		MIKE HT			
FNINI	= LBS		XNL	=		RPM	XNH	=		RPM	V8	= 1690.7 FPS		AE8	= 4.0 SQ IN	
FNRAE	= LBS		XNLR	=		RPM	XNHR	=		RPM	V18	= 2293.2 FPS		AE18	= 18.0 SQ IN	
RUNPT = 82F-400-0312 TAPE = X03121 TEST PT NO = 0312 NC = AF061 CORR FAN SPEED = RPM																

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-ZER-0315 XO315C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	83.3	81.8	82.4	81.5	80.3	84.7	85.9	86.8	95.4	94.3	94.5	95.1	131.4
63	91.7	89.0	88.2	89.3	90.4	88.7	92.9	91.8	91.5	103.3	98.9	98.1	100.0	137.7
80	89.2	93.5	89.7	91.5	91.1	92.0	93.9	93.0	93.7	93.3	95.9	98.4	100.8	136.0
100	89.5	95.8	91.5	94.1	94.4	93.0	95.2	96.8	95.0	96.6	99.2	102.7	105.1	139.0
125	86.2	89.7	92.2	93.9	94.3	94.0	94.8	95.7	95.5	98.0	104.2	107.1	108.8	141.6
160	87.4	85.0	89.7	90.1	90.4	90.5	96.6	93.5	94.5	99.3	105.4	108.4	111.3	142.8
200	87.8	88.1	88.9	90.9	92.3	93.1	96.8	96.7	99.9	100.7	106.8	111.0	113.7	145.1
250	87.0	92.1	91.3	92.9	92.0	92.8	97.0	98.6	100.1	106.1	112.5	115.2	115.4	148.6
315	88.1	90.9	90.2	92.9	94.8	95.2	100.1	98.5	102.7	108.7	114.1	116.8	116.7	150.2
400	88.5	92.0	92.3	94.0	94.7	94.5	107.4	99.6	104.3	112.4	117.0	118.9	117.3	152.5
500	90.5	92.0	93.6	95.3	95.2	96.5	99.2	100.3	105.8	113.9	119.0	118.7	117.6	153.2
630	91.2	93.5	94.7	96.4	96.6	97.2	99.4	102.3	105.7	115.5	119.9	119.9	118.3	154.3
800	95.4	95.0	96.5	97.5	97.9	98.5	100.9	104.0	108.0	116.3	121.2	120.4	118.3	155.1
1000	100.4	101.7	101.2	100.4	99.9	99.5	101.6	104.5	110.0	115.8	121.2	120.6	118.3	155.3
1250	100.5	104.0	104.8	106.0	104.2	103.3	104.2	105.9	110.8	115.6	122.0	120.7	117.2	155.8
1600	101.5	100.9	101.6	102.3	103.0	102.8	104.7	107.0	111.8	114.7	122.5	119.0	115.2	155.4
2000	103.5	102.7	102.8	102.7	101.5	102.2	104.6	107.5	111.6	115.1	122.1	116.7	112.7	154.8
2500	102.2	103.2	104.1	104.6	104.4	103.1	104.5	108.3	112.5	117.0	120.0	115.3	110.8	154.1
3150	101.1	102.2	102.7	103.7	103.8	104.4	105.5	108.5	111.8	116.6	118.9	113.3	109.3	153.4
4000	98.8	100.0	101.3	102.7	103.4	103.9	105.5	108.9	112.5	116.2	116.7	112.5	108.0	152.6
5000	98.3	99.8	100.9	102.3	102.6	103.3	105.5	108.8	112.3	115.6	116.7	111.5	107.0	152.4
6300	96.0	97.8	100.1	101.6	102.3	103.0	105.3	105.0	111.5	113.8	114.6	109.4	106.2	151.2
8000	94.1	96.9	98.5	100.7	101.2	102.2	104.4	107.7	110.0	112.5	112.8	107.6	103.9	150.1
10000	92.1	95.6	97.6	99.4	100.6	101.9	104.1	106.6	109.2	111.5	112.0	107.2	103.3	149.9
12500	90.8	93.2	95.7	98.9	98.5	100.8	102.6	105.3	107.8	109.2	110.0	105.1	101.8	148.9
16000	87.6	91.5	93.2	96.5	97.4	98.1	100.7	103.3	105.8	107.2	107.9	102.9	99.0	148.2
20000	85.6	88.5	90.9	93.9	95.0	96.8	98.6	100.7	103.1	105.1	106.2	100.7	97.4	147.8
25000	82.4	86.1	88.2	91.7	92.7	94.5	96.9	99.2	101.9	104.1	102.2	98.5	93.7	148.2
31500	76.3	81.0	82.6	87.2	87.7	89.8	91.6	93.9	97.3	100.9	99.2	93.7	87.7	147.3
40000	72.3	77.4	80.1	82.9	83.7	86.4	88.4	92.1	96.2	99.7	98.1	91.9	84.5	149.8
50000	68.4	77.0	76.1	79.1	81.0	83.0	85.0	88.5	94.5	100.1	96.8	90.4	81.6	153.3
63000	64.8	73.6	72.1	74.9	76.3	79.2	80.9	86.7	92.6	100.2	95.4	88.5	76.9	157.8
80000	59.9	73.4	68.9	68.8	70.4	74.0	75.9	81.3	89.4	98.0	93.0	83.5	70.8	162.1
OASPL	111.0	112.2	113.0	114.1	114.1	114.4	116.9	119.2	122.7	127.2	131.5	129.7	127.7	168.2
PNL	124.0	125.2	126.0	127.0	127.1	127.4	129.5	132.1	135.6	140.0	143.2	140.0	137.1	
PNLT	124.0	126.9	127.1	128.5	127.1	127.4	130.8	132.1	135.6	140.0	143.2	140.0	137.1	
DBA	111.5	112.4	113.2	114.1	113.9	114.0	116.0	118.9	122.7	127.0	131.4	128.9	126.1	

ORIGINAL PAGE 12  
OF POOR QUALITY

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH273 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1700.0 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2408.4 FPS AE18 = 18.0 SQ IN

RUNPT = B2F-ZER-0315 TAPE = XO315C TEST PT NO = 0315 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0315 X0315F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	83.3	81.8	82.4	81.5	80.3	84.7	85.9	86.8	95.4	94.3	94.5	95.1	131.4
63	91.7	89.0	88.2	89.3	90.4	88.7	92.9	91.8	91.5	103.3	98.9	98.1	100.0	137.7
80	89.2	93.5	89.7	91.5	91.1	92.0	93.9	93.0	93.7	93.3	95.9	98.4	100.8	136.0
100	89.5	95.8	91.5	94.1	94.4	93.0	95.2	96.8	95.0	96.6	99.2	102.7	105.1	139.0
125	86.2	89.7	92.2	93.9	94.3	94.0	94.8	95.7	95.5	98.0	104.2	107.1	108.8	141.6
160	87.4	85.0	89.7	90.1	90.4	90.5	96.6	93.5	94.5	99.3	105.4	108.4	111.3	142.8
200	87.8	88.1	88.9	90.9	92.3	93.1	96.8	96.7	99.9	100.7	106.8	111.0	113.7	145.1
250	87.0	92.1	91.3	92.9	92.0	92.8	97.0	98.6	100.1	106.1	112.5	115.2	115.4	148.6
315	88.1	90.9	90.2	92.9	94.8	95.2	100.1	98.5	102.7	108.7	114.1	116.8	116.7	150.2
400	88.5	92.0	92.3	94.0	94.7	94.5	107.4	99.6	104.3	112.4	117.0	118.9	117.3	152.5
500	90.5	92.0	93.6	95.3	95.2	96.5	99.2	100.3	105.8	113.9	119.0	118.7	117.6	153.2
630	91.2	93.5	94.7	96.4	96.6	97.2	99.4	102.3	105.7	115.5	119.9	119.9	118.3	154.3
800	95.4	95.0	96.5	97.5	97.9	98.5	100.9	104.0	108.0	116.3	121.2	120.4	118.3	155.1
1000	100.4	101.7	101.2	100.4	99.9	99.5	101.6	104.5	110.0	115.8	121.2	120.6	118.3	155.3
1250	100.5	104.0	104.8	106.0	104.2	103.3	104.2	105.9	110.8	115.6	122.0	120.7	117.2	155.8
1600	101.5	100.9	101.6	102.3	103.0	102.8	104.7	107.0	111.8	114.7	122.5	119.0	115.2	155.4
2000	103.5	102.7	102.8	102.7	101.5	102.2	104.6	107.5	111.6	115.1	122.1	116.7	112.7	154.8
2500	102.2	103.2	104.1	104.6	104.4	103.1	104.5	108.3	112.5	117.0	120.0	115.3	110.8	154.1
3150	101.1	102.2	102.7	103.7	103.8	104.4	105.5	108.5	111.8	116.6	118.9	113.3	109.3	153.4
4000	98.8	100.0	101.3	102.7	103.4	103.9	105.5	108.9	112.5	116.2	116.7	112.5	108.0	152.6
5000	98.3	99.8	100.9	102.3	102.6	103.3	105.5	108.8	112.3	115.6	116.7	111.5	107.0	152.4
6300	96.0	97.8	100.1	101.6	102.3	103.0	105.3	109.0	111.5	113.8	114.6	109.4	106.2	151.2
8000	94.1	96.9	98.5	100.7	101.2	102.2	104.4	107.7	110.0	112.5	112.8	107.6	103.9	150.1
10000	92.1	95.6	97.6	99.4	100.6	101.9	104.1	106.6	109.2	111.5	112.0	107.2	103.3	149.9
12500	90.8	93.2	95.7	98.9	98.5	100.8	102.6	105.3	107.8	109.2	110.0	105.1	101.8	148.9
16000	87.6	91.5	93.2	96.5	97.4	98.1	100.7	103.3	105.8	107.2	107.9	102.9	99.0	148.2
20000	85.6	88.5	90.9	93.9	95.0	96.8	98.6	100.7	103.1	105.1	106.2	100.7	97.4	147.8
25000	82.4	86.1	88.2	91.7	92.7	94.5	96.9	99.2	101.9	104.1	102.2	98.5	93.7	148.2
31500	76.3	81.0	82.6	87.2	87.7	89.8	91.6	93.9	97.3	100.9	99.2	93.7	87.7	147.3
40000	72.3	77.4	80.1	82.9	83.7	86.4	88.4	92.1	96.2	99.7	98.1	91.9	84.5	149.8
50000	68.4	77.0	76.1	79.1	81.0	83.0	85.0	88.5	94.5	100.1	96.8	90.4	81.6	153.3
63000	64.8	73.6	72.1	74.9	76.3	79.2	80.9	86.7	92.6	100.2	95.4	88.5	76.9	157.8
80000	59.9	73.4	68.9	68.8	70.4	74.0	75.9	81.3	89.4	98.0	93.0	83.5	70.8	162.1
OASPL	111.0	112.2	113.0	114.1	114.1	114.4	116.9	119.2	122.7	127.2	131.5	129.7	127.7	168.2
PNL	124.0	125.2	126.0	127.0	127.1	127.4	129.5	132.1	135.6	140.0	143.2	140.0	137.1	
PNLT	124.0	126.9	127.1	128.5	127.1	127.4	130.8	132.1	135.6	140.0	143.2	140.0	137.1	
DBA	181.3	193.9	190.0	190.7	192.2	195.6	197.4	202.8	210.3	218.8	213.8	204.9	192.7	

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DF5C-3/NAS3-23166

VEHICL = ADH273	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	DEG WIND VEL =	MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =
FNIN1 =	LBS XNL =	RPM	XNH =	RPM	V8 = 1700.0 FPS
FNRAMB =	LBS XNLR =	RPM	XNHR =	RPM	V18 = 2408.4 FPS
					AE8 = 4.0 SQ IN
					AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0315 TAPE = X0315F TEST PT NO = 0315 NC = AE061 CORR FAN SPEED = RPM

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 58 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0315 X03151

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.1	72.1	73.5	75.9	77.0	77.0	89.7	81.5	85.5	92.5	95.6	95.3	90.4	170.5
63	69.1	72.1	74.7	77.2	77.5	79.0	81.5	82.2	87.0	94.0	97.6	95.0	90.6	171.2
80	69.7	73.5	75.9	78.2	78.9	79.6	81.6	84.1	86.9	95.6	98.4	96.1	91.2	172.3
100	73.9	75.0	77.6	79.3	80.1	80.8	83.1	85.8	89.1	96.3	99.6	96.6	91.0	173.2
125	78.7	81.6	82.2	82.1	82.0	81.8	83.8	86.3	91.0	95.7	99.5	96.6	90.8	173.3
160	78.6	83.8	85.7	87.6	86.2	85.5	86.2	87.5	91.7	95.4	100.1	96.5	89.3	173.8
200	79.4	80.5	82.3	83.8	84.8	84.8	86.5	88.4	92.5	94.2	100.4	94.4	86.9	173.4
250	81.1	81.9	83.3	84.0	83.2	84.0	86.3	88.7	92.0	94.4	99.7	91.7	83.7	172.8
315	79.4	82.2	84.2	85.6	85.8	84.6	85.9	89.3	92.6	95.9	97.2	89.8	81.1	172.2
400	77.7	80.7	82.5	84.4	84.9	85.6	86.6	89.1	91.6	95.1	95.5	87.1	78.5	171.4
500	75.0	78.1	80.8	83.0	84.3	84.9	86.4	89.2	91.9	94.3	92.8	85.7	76.2	170.6
630	74.0	77.5	80.0	82.4	83.2	84.0	86.0	88.8	91.4	93.3	92.4	84.0	74.2	170.4
800	71.1	75.1	78.9	81.4	82.6	83.5	85.6	88.7	90.3	91.2	89.8	81.2	72.2	169.3
1000	68.8	74.0	77.1	80.3	81.3	82.6	84.6	87.4	88.6	89.6	87.5	78.7	68.8	168.2
1250	66.4	72.3	76.0	78.8	80.6	82.1	84.1	86.0	87.6	88.3	86.2	77.6	66.7	167.9
1600	64.1	69.3	73.7	78.0	78.3	80.7	82.3	84.3	85.8	85.4	83.3	74.0	62.9	166.9
2000	60.0	67.0	70.8	75.3	77.0	77.9	80.3	82.2	83.4	82.7	80.2	70.3	57.0	166.2
2500	56.2	62.8	67.6	72.1	74.0	76.1	77.6	78.9	79.7	79.4	76.8	65.3	50.5	165.9
3150	49.6	58.0	63.0	68.4	70.3	72.5	74.6	75.8	76.7	75.9	69.4	58.0	38.5	166.2
4000	37.3	48.2	53.5	60.6	62.4	64.9	66.3	67.3	68.3	68.0	60.2	44.3	18.0	165.3
5000	23.5	37.0	44.9	50.9	53.4	56.6	58.1	60.0	60.9	59.3	49.3	28.8		167.8
6300	1.8	22.3	28.8	36.3	40.6	43.4	44.6	45.7	47.2	45.5	30.2	3.2		171.3
8000			3.5	12.8	17.8	21.8	22.4	24.6	23.9	20.7				175.8
10000														180.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL 88.1 90.9 92.9 94.6 95.0 95.3 97.7 99.5 102.4 106.1 109.0 104.9 99.0 186.1  
 PNL 92.0 95.3 97.9 100.3 101.1 102.2 104.2 106.1 108.4 110.9 112.2 105.7 98.1  
 PNLT 92.0 95.2 98.5 101.1 101.6 102.2 104.2 106.1 108.9 111.5 112.2 106.9 98.1  
 DBA 81.1 84.5 87.2 89.7 90.6 91.6 93.4 95.9 97.9 99.6 99.9 92.7 84.6

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICLE = ADH273 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = ND PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM VB = 1700.0 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V1B = 2408.4 FPS AE1B = 18.0 SQ IN  
 RUNPT = 82F-ZER-0315 TAPE = X03151 TEST PT NO = 0315 NC = AE061 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0316 X0316C  
BACKGROUND 82F-400-0100 X01000

## ANGLFS MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	87.0	85.1	80.1	82.9	83.2	80.3	81.7	83.4	86.8	94.9	95.5	90.7	97.1	131.5
63	91.4	88.0	86.0	88.8	90.1	87.2	89.4	85.8	91.7	101.3	100.4	90.9	97.5	136.2
80	88.9	93.2	89.2	91.5	90.6	91.5	92.4	92.3	93.0	92.3	94.7	96.4	101.0	135.2
100	88.2	94.0	89.0	91.8	92.2	92.0	93.4	94.8	93.0	93.6	96.7	100.7	104.3	137.3
125	85.9	88.2	90.0	92.2	92.8	92.5	93.1	94.0	93.0	95.0	101.4	104.8	107.3	139.5
160	84.7	82.2	87.7	88.6	88.1	88.0	93.9	90.0	91.5	95.8	102.7	105.6	109.5	140.5
200	85.8	85.4	85.1	86.4	87.5	89.1	92.5	92.9	96.1	96.7	102.8	107.5	110.9	141.8
250	83.3	86.6	86.1	88.6	88.0	89.3	92.5	94.9	96.1	101.2	108.3	111.2	112.4	144.7
315	84.1	86.7	86.2	88.6	89.3	90.4	95.3	94.5	97.9	104.5	110.4	113.6	113.2	146.6
400	84.5	87.3	87.8	89.0	89.7	90.3	102.2	95.6	99.3	106.9	112.5	114.7	111.6	147.7
500	86.0	87.5	88.6	90.3	91.2	91.8	94.7	96.6	101.1	109.6	115.5	115.4	109.8	149.2
630	86.4	88.5	90.0	91.4	92.1	93.5	95.1	97.8	102.0	111.3	116.2	115.6	107.5	149.8
800	88.2	89.2	91.2	92.5	93.1	94.0	96.6	99.3	104.7	112.3	117.9	113.9	103.8	150.5
1000	92.2	92.0	93.2	94.4	94.4	95.2	97.9	101.0	105.7	112.3	116.9	112.6	102.3	149.8
1250	94.8	97.5	96.8	97.0	96.4	97.1	99.4	102.4	106.8	112.4	117.0	110.9	102.0	149.9
1600	99.8	100.7	99.6	98.6	97.7	98.1	100.9	103.7	107.8	111.7	117.0	110.2	102.5	150.0
2000	101.0	101.7	102.8	102.7	99.8	97.9	100.4	104.0	108.1	111.9	116.9	109.7	102.0	150.1
2500	99.0	100.8	102.1	103.4	103.9	101.3	101.2	105.6	109.7	113.3	116.5	109.3	101.6	150.6
3150	97.1	98.4	100.2	100.7	101.8	103.6	104.5	105.7	109.3	113.1	116.1	108.8	101.3	150.4
4000	96.1	97.5	98.8	99.7	100.0	101.2	103.8	106.6	110.2	112.7	114.9	107.5	100.5	149.9
5000	95.1	97.1	98.9	99.3	99.4	100.3	103.0	106.8	111.0	112.6	113.5	106.8	99.5	149.6
6300	93.5	95.8	97.4	98.7	99.8	100.0	102.6	107.0	110.2	111.6	111.4	104.7	98.7	148.8
8000	91.7	94.5	96.1	98.0	98.2	99.5	102.0	106.1	109.0	110.6	110.1	102.4	96.7	148.0
10000	90.0	93.2	95.2	96.7	98.0	99.7	101.7	105.2	108.3	109.7	108.6	102.6	95.9	147.7
12500	87.7	90.1	93.6	95.3	95.7	97.9	99.5	103.4	106.5	106.7	106.4	100.2	94.2	146.3
16000	85.3	88.8	90.9	93.2	93.9	95.8	98.2	101.3	104.3	104.4	104.3	97.6	92.2	145.5
20000	83.2	85.9	87.3	91.0	92.1	93.6	96.2	98.5	101.7	101.8	102.1	95.8	90.7	144.8
25000	79.8	83.1	85.4	88.2	89.6	91.4	93.6	96.1	99.6	100.4	98.6	93.4	87.4	144.9
31500	73.3	78.1	79.7	83.3	84.0	86.4	87.6	90.7	94.9	96.3	94.6	88.0	81.0	143.4
40000	69.9	75.1	76.6	79.4	80.6	83.0	84.6	87.8	92.4	94.3	93.1	84.5	77.4	145.0
50000	66.5	72.7	72.0	75.0	76.6	79.1	79.3	83.9	90.7	92.7	91.2	80.0	72.7	147.2
63000	62.8	71.9	68.9	70.4	71.5	74.7	74.4	79.7	86.8	91.0	88.6	75.4	67.1	149.8
80000	58.7	70.7	66.5	64.6	65.7	69.4	67.2	72.4	82.2	89.2	85.9	68.3	59.2	153.8
OASPL	107.8	109.3	110.1	111.0	111.0	111.5	113.8	116.6	120.3	123.8	127.5	124.2	120.6	163.1
PNL	120.7	122.4	123.4	124.5	124.8	125.3	127.1	129.5	133.1	136.6	139.8	134.6	129.0	
PNLT	120.7	122.9	123.4	124.5	125.9	125.3	128.3	129.5	133.1	136.6	139.8	134.6	129.0	
DBA	108.1	109.5	110.5	111.0	111.0	111.1	113.2	116.2	120.1	123.7	127.4	122.4	115.9	

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH279	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 400. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMP F = 74.00	PAMB HG = 29.45	RELHUM = 58.3 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST =	40.0 FT	EXT CONFIG = ARC	MIKE HIT =
FNIN1 =	LBS XNL =	RPM XNH =	RPM	V8 = 1698.0 FPS	AE8 = 4.0 SQ IN
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM	V18 = 2417.6 FPS	AE18 = 18.0 SQ IN
RUNPT = 82F-400-0316	TAPE = X0316C	TEST PT NO = 0316	NC = AEO61	CORR FAN SPEED =	RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0316 X0316F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.4	92.5	90.7	91.7	89.5	89.3	90.6	91.3	94.5	100.1	105.5	109.1	110.6	142.8
315	90.4	92.5	90.7	91.7	91.1	90.6	94.0	91.7	96.0	102.8	108.0	111.0	110.4	144.3
400	91.8	93.0	91.1	92.0	91.5	90.5	100.9	92.8	99.2	107.1	112.8	114.0	111.7	147.6
500	91.8	93.4	92.6	92.3	93.1	92.1	94.0	94.8	100.7	109.7	114.7	116.1	112.5	149.4
630	93.7	93.9	93.5	93.8	94.1	93.9	94.5	96.2	103.4	110.7	116.9	115.6	111.7	150.3
800	94.1	94.9	95.0	94.9	95.2	94.5	95.8	97.3	105.0	111.5	116.8	115.9	112.9	150.6
1000	95.9	95.7	96.3	96.1	96.3	95.9	97.3	99.3	106.1	111.5	116.9	114.3	112.7	150.4
1250	98.3	97.4	97.6	97.6	98.2	97.9	98.9	100.7	107.5	111.2	117.3	114.0	113.6	150.7
1600	99.7	101.8	100.3	99.6	99.7	99.1	100.7	102.4	107.9	111.6	117.4	113.7	113.4	151.0
2000	106.3	106.1	103.8	101.5	101.9	99.2	100.4	102.8	109.8	113.2	117.2	113.5	113.3	151.6
2500	107.0	106.7	106.8	105.7	106.8	102.9	101.5	104.7	109.8	113.6	117.4	113.6	113.6	152.3
3150	106.2	107.1	107.3	107.4	105.1	105.6	105.2	105.3	111.3	113.5	116.4	112.4	112.9	152.2
4000	104.7	105.1	105.8	105.1	103.7	103.7	105.1	106.7	112.1	113.4	114.8	111.5	111.7	151.5
5000	103.6	104.2	104.6	104.4	103.4	103.3	104.5	107.0	111.4	112.5	112.9	109.5	111.0	150.6
6300	102.5	103.8	104.8	104.2	103.9	103.0	104.1	107.2	110.2	111.4	111.4	106.9	108.8	149.9
8000	100.8	102.4	103.1	103.4	102.3	102.5	103.5	106.2	109.7	110.7	110.2	107.5	108.2	149.5
10000	98.8	100.9	101.6	102.5	102.6	102.7	103.2	105.3	108.3	108.2	108.5	105.7	107.2	148.7
12500	99.6	101.6	102.2	102.1	100.3	100.9	101.2	103.7	106.7	106.5	107.1	103.8	105.8	148.1
16000	96.8	97.9	100.1	100.2	98.5	98.8	99.9	101.6	104.8	104.7	105.6	102.8	105.1	147.7
20000	94.0	96.2	97.0	97.7	96.7	96.6	98.1	99.1	103.1	103.5	102.4	100.6	102.1	147.3
25000	91.3	92.7	92.7	94.9	94.2	94.4	95.4	96.5	98.7	99.6	98.3	94.8	95.0	145.9
31500	87.1	89.2	90.0	91.2	88.6	89.4	89.1	90.8	97.0	98.4	97.5	91.9	91.7	146.2
40000	79.8	83.4	83.5	85.5	85.2	86.0	86.0	87.7	95.6	97.2	96.0	87.8	87.4	148.0
50000	76.0	79.9	80.0	81.2	81.2	82.1	80.8	83.9	92.7	96.4	94.4	84.2	82.8	150.4
63000	71.6	76.6	74.5	75.9	76.1	77.7	75.8	79.7	89.6	96.0	93.1	78.6	76.3	154.2
80000	66.4	74.3	69.9	69.8	69.5	72.4	68.6	72.4	79.8	86.2	83.3	68.8	66.5	151.6
OASPL	114.4	115.0	115.1	114.8	114.1	113.5	114.3	116.2	121.0	123.7	127.5	125.4	124.4	164.1
PNL	127.2	128.0	128.1	127.9	127.0	126.5	126.9	128.5	133.7	136.2	139.3	136.4	136.2	
PNLT	127.2	128.0	128.1	127.9	128.1	126.5	128.1	128.5	133.7	136.2	139.3	136.4	136.2	
DBA	188.1	195.1	191.4	191.8	191.7	194.0	191.1	194.7	203.2	209.4	206.5	192.6	190.6	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 49.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICLE = ADH279 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.0 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2417.6 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-400-0316 TAPE = X0316F TEST PT NO = 0316 NC = AEO61 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0316 X03161

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.4	73.2	72.3	73.9	73.8	73.0	83.2	74.8	80.4	87.3	91.4	90.4	84.8	165.6
63	70.4	73.5	73.8	74.2	75.4	74.6	76.3	76.7	81.9	89.8	93.3	92.4	85.5	167.4
80	72.2	74.0	74.7	75.6	76.3	76.3	76.8	78.0	84.5	90.8	95.4	91.9	84.6	168.3
100	72.5	74.9	76.1	76.7	77.4	76.9	78.1	79.1	86.1	91.5	95.3	92.1	85.6	168.7
125	74.2	75.6	77.3	77.8	78.5	78.2	79.4	81.1	87.1	91.4	95.2	90.3	85.2	168.4
160	76.5	77.1	78.5	79.2	80.2	80.0	81.0	82.3	88.3	90.9	95.4	89.7	85.7	168.8
200	77.6	81.3	81.0	81.0	81.5	81.1	82.6	83.8	88.6	91.1	95.2	89.1	85.0	169.0
250	83.9	85.3	84.2	82.8	83.6	81.0	82.1	84.0	90.2	92.4	94.7	88.6	84.3	169.7
315	84.2	85.6	87.0	86.7	88.2	84.5	82.9	85.7	90.0	92.5	94.5	88.1	83.8	170.3
400	82.8	85.6	87.1	88.1	86.2	86.9	86.3	85.9	91.1	92.0	93.0	86.2	82.1	170.3
500	80.9	83.2	85.2	85.5	84.5	84.7	85.9	87.1	91.5	91.5	91.0	84.7	80.0	169.6
630	79.3	81.9	83.7	84.4	84.0	84.1	85.0	87.0	90.5	90.2	88.5	82.0	78.2	168.7
800	77.7	81.1	83.6	84.0	84.2	83.5	84.4	87.0	89.0	88.7	86.5	78.7	74.8	167.9
1000	75.6	79.4	81.7	83.0	82.4	82.9	83.6	85.8	88.3	87.7	84.9	78.6	73.1	167.5
1250	73.0	77.6	80.0	82.0	82.6	82.9	83.2	84.7	86.7	84.9	82.7	76.0	70.7	166.7
1600	73.0	77.7	80.1	81.2	80.0	80.9	80.9	82.8	84.7	82.7	80.4	72.7	66.9	166.2
2000	69.2	73.5	77.6	79.0	78.0	78.7	79.5	80.5	82.3	80.2	78.0	70.1	63.1	165.7
2500	64.6	70.5	73.6	75.8	75.7	75.9	77.1	77.3	79.8	77.8	73.0	65.1	55.2	165.3
3150	58.5	64.6	67.5	71.5	71.8	72.4	73.1	73.2	73.5	71.5	65.5	54.3	39.8	163.9
4000	48.1	56.3	61.0	64.6	63.3	64.5	63.7	64.1	67.9	65.5	58.5	42.6	22.0	164.3
5000	31.0	43.0	48.2	53.4	54.9	56.2	55.7	55.7	60.4	56.7	47.2	24.7		166.0
6300	9.4	25.3	32.7	38.3	40.8	42.5	40.4	41.1	45.4	41.8	27.8			168.4
8000			5.8	13.8	17.6	20.3	17.3	17.6	20.9	16.6				172.2
10000														169.6
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

ORIGINAL PAGE IS  
OF POOR QUALITY

DASPL 90.9 93.3 94.6 95.1 95.0 94.4 95.1 96.4 100.5 102.5 105.0 100.5 95.1 182.1  
PNL 96.2 99.4 101.2 102.3 101.9 101.7 102.3 103.5 107.0 107.7 108.4 102.2 97.0  
PNLT 96.7 99.4 101.8 102.8 102.5 101.7 102.3 103.5 107.5 108.3 108.4 102.2 97.0  
DBA 86.3 89.3 91.3 92.1 91.8 91.8 92.3 93.9 96.9 96.8 96.5 90.1 85.6

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH279 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1698.0 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2417.6 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-400-0316 TAPE = X03161 TEST PT NO = 0316 NC = AEO61 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY. SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0319 X0319C  
BACKGROUND

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	83.1	82.3	82.6	82.0	81.1	85.7	84.4	87.6	96.2	94.8	94.5	96.1	131.9
63	89.9	88.0	88.7	89.1	90.6	89.0	91.6	87.5	92.7	104.3	99.2	98.1	100.3	138.0
80	89.4	93.5	89.7	91.5	91.9	93.0	94.1	92.8	93.7	93.3	95.4	98.1	100.8	136.0
100	89.7	95.8	91.5	94.6	94.2	93.3	95.2	97.1	94.5	96.3	99.2	102.4	105.1	139.0
125	85.9	89.9	93.0	94.2	95.1	94.5	95.6	96.5	95.5	98.3	104.7	107.8	108.8	142.0
160	86.7	85.2	90.0	90.8	90.4	90.2	97.4	93.5	95.0	100.0	106.2	109.1	111.5	143.4
200	87.8	88.1	88.9	91.4	92.3	93.6	96.8	96.4	99.9	101.2	106.8	110.8	113.7	145.1
250	87.5	92.3	91.8	93.6	92.5	93.3	97.7	99.1	100.6	106.6	112.8	115.7	116.1	149.1
315	88.6	91.2	90.7	93.4	94.6	95.7	100.1	99.0	102.9	109.2	114.4	117.1	117.5	150.6
400	89.0	92.0	93.3	94.2	94.7	94.5	107.7	99.6	104.0	112.1	117.0	118.7	117.1	152.3
500	90.5	92.5	93.3	95.3	95.4	96.3	98.9	101.1	105.8	113.9	119.0	119.7	117.8	153.5
630	91.2	93.2	95.0	96.4	96.1	98.0	99.1	102.3	106.5	115.8	120.4	120.1	118.5	154.6
800	95.2	95.7	96.7	98.0	98.1	99.0	100.6	104.3	109.0	116.8	121.7	120.6	118.5	155.5
1000	100.7	102.7	101.2	101.1	99.9	99.5	101.6	104.8	110.5	116.3	121.9	121.1	118.5	155.8
1250	100.8	104.5	105.6	106.5	104.7	103.6	104.2	105.9	111.1	116.1	122.5	120.4	117.2	156.0
1600	99.5	99.9	101.3	102.6	103.0	103.1	105.2	107.5	111.8	115.2	123.0	119.2	115.7	155.8
2000	101.5	101.7	101.3	101.5	101.5	102.2	104.9	108.0	111.8	115.4	121.6	117.2	113.0	154.7
2500	101.0	102.5	103.3	103.4	102.9	102.8	105.0	108.8	113.2	117.8	120.3	115.8	110.8	154.5
3150	100.6	102.2	101.9	102.5	102.5	103.4	105.7	108.5	112.0	117.4	119.1	113.8	109.3	153.7
4000	98.5	99.5	101.1	102.7	102.4	102.7	105.0	109.4	112.5	116.9	117.4	112.7	108.2	153.0
5000	98.1	99.8	100.7	101.8	102.6	103.3	105.5	108.8	112.8	116.1	116.2	111.5	107.0	152.4
6300	96.0	98.0	99.9	101.1	102.5	102.2	105.3	108.7	111.5	114.1	114.4	110.2	105.7	151.2
8000	94.4	97.4	99.0	100.9	100.9	102.5	104.7	108.2	110.5	113.3	113.0	107.6	104.2	150.6
10000	92.6	96.3	98.1	99.9	100.1	102.1	104.4	107.1	109.2	112.3	111.8	107.0	102.8	150.1
12500	90.8	93.4	96.2	98.7	98.8	100.8	102.3	105.5	107.3	109.5	110.0	105.6	101.1	148.9
16000	87.8	92.0	93.4	96.7	97.6	98.6	100.7	103.3	105.8	107.4	108.4	102.7	99.0	148.4
20000	85.4	88.8	90.7	93.7	95.3	96.8	98.9	100.5	103.1	104.9	106.5	100.5	97.4	147.8
25000	82.1	86.4	88.4	91.5	92.7	95.0	96.7	98.7	101.9	104.1	102.4	98.7	93.2	148.2
31500	75.3	80.8	82.6	87.2	87.2	89.8	91.1	93.7	97.3	100.9	99.0	94.4	86.7	147.2
40000	72.1	78.1	79.9	83.4	84.0	86.4	88.4	92.1	95.7	100.7	97.4	91.9	84.0	150.0
50000	68.6	74.7	76.1	79.6	81.3	83.0	85.2	89.3	94.2	100.9	96.5	90.4	81.1	153.6
63000	64.8	73.9	72.4	74.7	76.3	79.5	81.4	86.9	92.8	100.2	96.4	89.5	77.4	158.1
80000	59.9	73.4	69.4	69.5	71.1	74.3	76.1	82.8	90.9	98.3	93.0	83.2	71.3	162.5
DASPL	110.3	112.2	112.8	113.9	113.8	114.3	117.0	119.4	123.0	127.7	131.8	130.0	128.0	168.5
PNL	123.4	125.1	125.6	126.5	126.5	127.0	129.6	132.4	135.8	140.6	143.4	140.4	137.4	
PNLT	123.4	126.2	127.1	128.0	127.5	127.0	131.0	132.4	135.8	140.6	143.4	140.4	137.4	
DBA	110.6	112.3	112.9	113.8	113.5	113.8	116.2	119.1	123.0	127.6	131.7	129.1	126.3	

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH274 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1696.3 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2442.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0319 TAPE = X0319C TEST PT NO = 0319 NC = AE061 CORR FAN SPEED = RPM

ORIGINAL PAGE 19  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0319 X0319F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	84.8	83.1	82.3	82.6	82.0	81.1	85.7	84.4	87.6	96.2	94.8	94.5	96.1	131.9
63	89.9	88.0	88.7	89.1	90.6	89.0	91.6	87.5	92.7	104.3	99.2	98.1	100.3	138.0
80	89.4	93.5	89.7	91.5	91.9	93.0	94.1	92.8	93.7	93.3	95.4	98.1	100.8	136.0
100	89.7	95.8	91.5	94.6	94.2	93.3	95.2	97.1	94.5	96.3	99.2	102.4	105.1	139.0
125	85.9	89.9	93.0	94.2	95.1	94.5	95.6	96.5	95.5	98.3	104.7	107.8	108.8	142.0
160	86.7	85.2	90.0	90.8	90.4	90.2	97.4	93.5	95.0	100.0	106.2	109.1	111.5	143.4
200	87.8	88.1	88.9	91.4	92.3	93.6	96.8	96.4	99.9	101.2	106.8	110.8	113.7	145.1
250	87.5	92.3	91.8	93.6	92.5	93.3	97.7	99.1	100.6	106.6	112.8	115.7	116.1	149.1
315	88.6	91.2	90.7	93.4	94.6	95.7	100.1	99.0	102.9	109.2	114.4	117.1	117.5	150.6
400	89.0	92.0	93.3	94.2	94.7	94.5	107.7	99.6	104.0	112.1	117.0	118.7	117.1	152.3
500	90.5	92.5	93.3	95.3	95.4	96.3	98.9	101.1	105.8	113.9	119.0	119.7	117.8	153.5
630	91.2	93.2	95.0	96.4	96.1	98.0	99.1	102.3	106.5	115.8	120.4	120.1	118.5	154.6
800	95.2	95.7	96.7	98.0	98.1	99.0	100.6	104.3	109.0	116.8	121.7	120.6	118.5	155.5
1000	100.7	102.7	101.2	101.1	99.9	99.5	101.6	104.8	110.5	116.3	121.9	121.1	118.5	155.8
1250	100.8	104.5	105.6	106.5	104.7	103.6	104.2	105.9	111.1	116.1	122.5	120.4	117.2	156.0
1600	99.5	99.9	101.3	102.6	103.0	103.1	105.2	107.5	111.8	115.2	123.0	119.2	115.7	155.8
2000	101.5	101.7	101.3	101.5	101.5	102.2	104.9	108.0	111.8	115.4	121.6	117.2	113.0	154.7
2500	101.0	102.5	103.3	103.4	102.9	102.8	105.0	108.8	113.2	117.8	120.3	115.8	110.8	154.5
3150	100.6	102.2	101.9	102.5	102.5	103.4	105.7	108.5	112.0	117.4	119.1	113.8	109.3	153.7
4000	98.5	99.5	101.1	102.7	102.4	102.7	105.0	109.4	112.5	116.9	117.4	112.7	108.2	153.0
5000	98.1	99.8	100.7	101.8	102.6	103.3	105.5	108.8	112.8	116.1	116.2	111.5	107.0	152.4
6300	96.0	98.0	99.9	101.1	102.5	102.2	105.3	108.7	111.5	114.1	114.4	110.2	105.7	151.2
8000	94.4	97.4	99.0	100.9	100.9	102.5	104.7	108.2	110.5	113.3	113.0	107.6	104.2	150.6
10000	92.6	96.3	98.1	99.9	100.1	102.1	104.4	107.1	109.2	112.3	111.8	107.0	102.8	150.1
12500	90.8	93.4	95.2	98.7	98.8	100.8	102.3	105.5	107.3	109.5	110.0	105.6	101.1	148.9
16000	87.8	92.0	93.4	96.7	97.6	98.6	100.7	103.3	105.8	107.4	108.4	102.7	99.0	148.4
20000	85.4	88.8	90.7	93.7	95.3	96.8	98.9	100.5	103.1	104.9	106.5	100.5	97.4	147.8
25000	82.1	86.4	88.4	91.5	92.7	95.0	96.7	98.7	101.9	104.1	102.4	98.7	93.2	148.2
31500	75.3	80.8	82.6	87.2	87.2	89.8	91.1	93.7	97.3	100.9	99.0	94.4	86.7	147.2
40000	72.1	78.1	79.9	83.4	84.0	86.4	88.4	92.1	95.7	100.7	97.4	91.9	84.0	150.0
50000	68.6	74.7	76.1	79.6	81.3	83.0	85.2	89.3	94.2	100.9	96.5	90.4	81.1	153.6
63000	64.8	73.9	72.4	74.7	76.3	79.5	81.4	86.9	92.8	100.2	96.4	89.5	77.4	158.1
80000	59.9	73.4	69.4	69.5	71.1	74.3	76.1	82.8	90.9	98.3	93.0	83.2	71.3	162.5

DASPL 110.3 112.2 112.8 113.9 113.8 114.3 117.0 119.4 123.0 127.7 131.8 130.0 128.0 168.5

PNL 123.4 125.1 125.6 126.5 126.5 127.0 129.6 132.4 135.8 140.6 143.4 140.4 137.4

PNLT 123.4 126.2 127.1 128.0 127.5 127.0 131.0 132.4 135.8 140.6 143.4 140.4 137.4

DBA 181.4 193.9 190.4 191.2 192.8 195.8 197.7 204.0 211.6 219.0 214.0 205.0 193.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH274 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1696.3 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2442.2 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0319 TAPE = X0319F TEST PT NO = 0319 NC = AE061 CORR FAN SPEED = RPM

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## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0319 XO3191

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.6	72.1	74.5	76.1	77.0	77.0	80.0	81.5	85.2	92.2	95.6	95.1	90.1	170.4
63	69.1	72.6	74.5	77.2	77.7	78.7	81.2	83.0	87.0	94.0	97.6	96.0	90.8	171.6
80	69.7	73.3	76.1	78.2	78.4	80.4	81.4	84.1	87.6	95.9	98.9	96.4	91.4	172.6
100	73.6	75.7	77.8	79.8	80.3	81.3	82.8	86.1	90.1	96.8	100.1	96.8	91.3	173.6
125	78.0	82.6	82.2	82.9	82.0	81.8	83.8	86.5	91.5	96.2	100.3	97.1	91.0	173.9
160	78.9	84.3	86.4	88.1	86.7	85.7	86.2	87.5	91.9	95.9	100.6	96.2	89.3	174.1
200	77.4	79.5	82.0	84.0	84.8	85.1	87.0	88.9	92.5	94.7	100.9	94.7	87.4	173.8
250	79.1	80.9	81.8	82.7	83.2	84.0	86.6	89.2	92.3	94.6	99.2	92.2	84.0	172.7
315	78.1	81.4	83.5	84.3	84.3	84.4	86.4	89.8	93.4	96.7	97.4	90.3	81.1	172.6
400	77.2	80.7	81.7	83.1	83.7	84.6	86.9	89.1	91.8	95.9	95.8	87.6	78.5	171.7
500	74.7	77.6	80.5	83.0	83.3	83.6	85.9	89.7	91.9	95.1	93.6	85.3	76.5	171.0
630	73.7	77.5	79.8	81.9	83.2	84.0	86.0	88.8	91.9	93.8	91.9	84.0	74.2	170.5
800	71.1	75.4	78.7	80.9	82.9	82.7	85.6	88.5	90.3	91.4	89.6	82.0	71.7	169.3
1000	69.1	74.5	77.6	80.6	81.1	82.8	84.8	87.9	89.1	90.3	87.8	78.7	69.1	168.6
1250	66.9	73.0	76.5	79.3	80.1	82.3	84.4	86.5	87.6	89.0	86.0	77.3	66.2	168.1
1600	64.1	69.5	74.2	77.8	78.5	80.7	82.1	84.6	85.3	85.6	83.3	74.5	62.1	167.0
2000	60.2	67.5	71.0	75.6	77.2	78.4	80.3	82.2	83.4	82.9	80.7	70.0	57.0	166.4
2500	56.0	63.1	67.3	71.9	74.3	76.1	77.9	78.7	79.7	79.2	77.1	65.0	50.5	165.8
3150	49.4	58.2	63.2	68.1	70.3	73.0	74.3	75.3	76.7	75.9	69.7	58.3	38.0	166.2
4000	36.3	47.9	53.5	60.6	61.9	64.9	65.8	67.0	68.3	68.0	60.0	45.1	17.0	165.2
5000	23.3	37.7	44.6	51.4	53.7	56.6	58.1	60.0	60.4	60.3	48.6	28.8		168.0
6300	2.1	20.1	28.8	36.8	40.9	43.4	44.8	46.4	46.9	46.2	30.0	3.2		171.6
8000			3.7	12.6	17.8	22.1	22.9	24.8	24.2	20.7				176.1
10000														180.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	87.3	90.9	92.7	94.5	94.7	95.2	97.8	99.7	102.7	106.5	109.3	105.2	99.1	186.4
PNL	91.1	95.3	97.6	99.9	100.9	102.2	104.2	106.3	108.6	111.4	112.4	106.0	98.3	
PNLT	91.1	95.8	98.4	100.7	101.5	102.2	104.2	106.3	109.1	112.1	112.4	107.0	98.3	
DBA	80.5	84.4	87.0	89.4	90.3	91.4	93.5	96.1	98.1	100.2	100.0	93.0	84.7	

ORIGINAL DATA IS  
OF POOR QUALITY

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH274	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	DEG WIND VEL =	MPH EXT DIST = 2400.0 FT	EXT CONFIG = SL	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1696.3 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2442.2 FPS	AE18 = 18.0 SQ IN	

RUNPT = 82F-ZER-0319 TAPE = XO3191 TEST PT NO = 0319 NC = AEO61 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARCIDENTIFICATION - MODEL 82F-400-0320 X0320C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	87.5	85.8	82.6	82.6	81.5	81.1	80.5	83.6	87.6	96.7	95.5	91.7	98.4	132.4
63	90.9	92.2	89.2	87.6	88.1	86.7	87.6	88.3	93.0	104.8	100.2	91.6	98.5	138.0
80	88.7	93.5	89.0	91.5	90.9	92.2	92.9	92.3	92.7	92.1	94.7	96.4	101.3	135.4
100	89.0	94.0	89.3	92.1	92.7	91.8	93.7	95.1	93.0	94.1	97.0	101.2	104.3	137.5
125	86.4	88.7	90.7	92.9	93.1	93.2	93.6	94.2	93.7	95.0	101.2	105.1	107.5	139.8
160	85.2	82.2	87.7	88.3	88.6	88.0	93.9	90.3	91.7	97.3	103.2	106.1	109.8	140.9
200	86.8	86.1	85.6	86.9	88.0	89.6	92.8	92.9	96.4	97.5	103.1	107.5	111.4	142.1
250	83.8	86.8	86.1	88.6	88.2	89.8	93.5	95.1	96.8	101.9	108.5	111.7	112.4	145.0
315	84.6	86.9	86.7	89.1	89.3	90.7	96.1	95.0	98.7	105.3	110.6	114.1	113.5	147.0
400	84.7	87.3	87.8	89.2	90.2	90.5	102.7	95.6	99.8	107.6	113.2	114.9	112.1	148.2
500	86.0	87.5	89.1	90.8	91.2	92.3	94.7	96.8	101.6	110.1	115.8	115.9	110.3	149.6
630	86.4	88.7	90.7	91.4	92.4	93.2	95.6	98.3	102.7	112.0	117.4	115.4	108.0	150.5
800	88.4	89.0	90.7	92.5	93.4	94.2	96.6	100.3	105.0	112.8	118.2	114.4	104.5	150.8
1000	92.2	92.5	93.7	94.4	94.6	95.2	97.4	101.3	106.5	112.8	118.2	113.1	103.0	150.7
1250	92.5	96.3	96.6	97.2	96.7	96.8	99.7	102.4	107.1	112.9	118.0	111.7	102.5	150.6
1600	93.3	94.9	95.3	96.8	97.5	98.1	100.9	103.5	108.1	112.2	118.3	111.0	102.0	150.7
2000	94.8	95.9	96.8	97.0	97.0	97.4	100.9	104.0	108.8	112.6	117.6	109.4	102.5	150.4
2500	95.0	97.3	98.3	98.6	99.2	99.3	101.0	105.9	109.7	114.3	117.3	110.1	102.6	150.9
3150	95.1	96.9	97.4	98.5	98.3	100.4	102.8	105.7	109.5	114.4	116.9	109.1	101.8	150.8
4000	93.3	95.0	97.3	98.2	99.0	99.4	102.1	106.6	110.2	114.2	114.7	107.5	101.3	150.1
5000	93.3	95.8	96.9	97.6	98.4	99.8	102.0	106.8	111.5	113.6	114.0	106.5	100.0	150.0
6300	92.0	94.1	95.9	96.9	98.8	99.3	102.1	106.7	110.5	112.4	111.9	105.2	98.5	149.0
8000	90.2	93.5	94.8	97.3	97.0	99.3	101.0	105.8	109.3	111.1	110.6	102.6	97.2	148.2
10000	88.5	92.4	93.4	95.7	97.0	99.5	101.5	105.2	108.8	110.2	109.1	102.3	95.9	147.9
12500	87.2	90.1	92.4	94.6	94.9	97.4	100.0	103.6	106.7	107.7	108.1	100.9	94.7	146.6
16000	84.1	88.5	90.2	92.7	94.1	95.3	98.2	101.8	104.8	105.2	104.6	98.1	92.2	145.9
20000	82.2	85.4	87.8	90.3	91.3	93.6	95.9	98.3	102.2	102.3	102.3	95.5	90.7	145.0
25000	79.3	82.9	85.1	87.4	89.1	91.7	94.1	95.9	100.4	101.1	98.6	93.4	87.1	145.3
31500	72.8	77.9	79.7	83.0	83.5	85.9	87.9	90.7	95.4	97.6	95.1	88.2	81.0	144.0
40000	69.2	75.1	76.8	79.9	80.4	82.7	84.8	88.0	93.6	95.5	92.6	84.3	77.1	145.7
50000	66.2	72.2	72.0	75.5	76.4	78.6	80.6	84.2	90.7	93.9	89.7	80.8	73.2	147.5
63000	62.3	70.9	68.9	70.1	71.8	74.4	74.9	80.2	87.6	94.0	88.6	75.7	67.4	151.6
80000	58.4	69.0	65.8	64.4	65.7	69.1	68.0	73.9	84.0	91.7	86.1	68.6	59.2	155.7
GASPL	104.9	107.1	107.8	109.0	109.5	110.6	113.4	116.6	120.6	124.7	128.2	124.5	121.0	163.9
PNL	118.2	120.2	120.9	122.0	122.5	123.6	126.2	129.6	133.5	137.6	140.5	134.9	129.3	
PNLT	118.2	120.2	120.9	122.0	122.5	124.1	127.4	129.6	133.5	137.6	140.5	134.9	129.3	
DBA	104.5	106.5	107.6	108.5	108.9	109.9	112.5	116.2	120.4	124.5	128.1	122.8	116.3	

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH280 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1710.0 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2451.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0320 TAPE = X0320C TEST PT NO = 0320 NC = AEO61 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SS 40.0 FT. ARC

IDENTIFICATION - 82F-400-0320 X0320F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	90.9	92.7	90.7	91.7	89.7	89.8	91.6	91.5	95.2	100.9	105.7	109.6	110.9	143.2
315	90.9	92.7	90.7	91.7	91.1	90.9	94.7	92.2	96.5	103.5	108.8	111.2	110.9	144.7
400	92.3	93.3	91.6	92.5	92.0	90.8	101.4	92.8	99.7	107.6	113.0	114.4	112.1	147.9
500	92.3	93.6	92.7	92.6	93.1	92.6	94.0	95.0	101.5	110.5	116.1	116.0	113.3	150.1
630	93.7	93.9	94.0	94.3	94.3	93.6	94.9	96.6	103.7	111.3	117.2	116.2	112.5	150.7
800	94.1	95.1	95.7	94.9	95.4	94.8	95.9	98.4	105.7	111.9	118.0	116.4	113.6	151.4
1000	96.1	95.4	95.8	96.1	96.5	95.9	96.7	99.5	106.3	112.0	117.8	115.0	113.2	151.1
1250	98.2	97.8	98.1	97.5	98.8	97.6	99.2	100.7	107.5	111.4	118.2	114.4	112.9	151.2
1600	98.6	101.7	101.0	100.5	99.9	99.1	100.6	102.0	108.6	112.2	118.0	113.3	113.8	151.4
2000	100.8	101.4	100.6	100.7	99.5	98.7	100.9	102.8	109.8	114.2	118.0	114.3	114.4	152.1
2500	100.7	101.2	101.3	100.5	102.1	100.9	101.3	105.0	110.0	114.7	118.0	113.7	114.0	152.2
3150	102.3	103.6	103.6	102.7	101.6	102.4	103.5	105.2	111.3	115.0	116.2	112.4	113.6	151.9
4000	102.7	103.6	103.0	102.9	102.7	102.0	103.3	106.7	112.5	114.3	115.2	111.1	112.1	151.6
5000	100.8	101.7	103.1	102.9	102.4	102.8	103.5	106.9	111.5	113.1	113.2	109.8	110.5	150.6
6300	100.8	102.5	102.8	102.4	102.9	102.3	103.6	106.9	110.4	111.9	111.9	107.2	109.3	149.8
8000	99.3	100.6	101.6	101.6	101.0	102.3	102.5	105.9	110.1	111.0	110.5	107.0	107.9	149.3
10000	97.3	99.9	100.3	101.8	101.6	102.5	102.9	105.2	108.6	109.2	108.3	106.5	107.7	148.7
12500	98.1	100.8	100.4	101.1	99.5	100.4	101.6	103.9	107.1	107.1	107.1	104.0	105.5	148.1
16000	96.3	97.9	98.8	99.4	98.7	98.3	99.8	102.0	105.1	104.9	105.6	102.3	104.9	147.6
20000	92.8	96.0	96.2	97.2	95.9	96.6	97.7	98.7	103.7	104.0	102.1	100.2	101.4	147.2
25000	90.3	92.2	93.2	94.1	93.7	94.7	95.8	96.1	99.1	100.8	98.7	94.8	94.5	146.1
31500	86.6	88.9	89.8	90.5	88.1	88.9	89.3	90.7	98.2	99.6	97.0	91.7	91.5	146.7
40000	79.3	83.1	83.5	85.2	85.0	85.7	86.3	88.0	95.6	98.4	94.5	88.6	87.9	148.2
50000	75.3	79.9	80.2	81.7	81.0	81.6	82.0	84.2	93.5	99.4	94.4	84.4	83.1	152.0
63000	71.4	76.1	74.5	76.4	76.4	77.4	76.3	80.2	91.4	98.5	93.4	78.8	76.3	156.0
80000	65.9	73.3	69.9	69.5	69.7	72.1	69.4	73.9	81.5	88.7	83.6	69.0	66.5	153.2
DASPL	111.5	112.8	112.9	112.8	112.5	112.5	113.8	116.1	121.2	124.5	128.1	125.6	124.8	164.7
PNL	124.4	125.4	125.4	125.0	124.8	124.6	125.9	128.5	134.0	137.2	139.8	136.6	136.8	
PNLT	124.4	125.4	125.4	125.0	124.8	124.6	127.1	128.5	134.0	137.2	139.8	136.6	136.8	
DBA	187.6	194.3	191.4	191.9	191.9	193.8	191.8	195.8	204.9	211.9	206.8	192.9	190.7	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL	=	ADH280	TEST DATE	=	08-25-82	LOCAT	=	C41 ANECH CH	CONFIG	=	3	MODEL	=	AX	FLTVEL	=	400. FPS	
IAPLHA	=	SB59	IEGA	=	NO	PWL AREA	=	FULL SPHERE	TAMB F	=	74.00	PAMB HG	=	29.45	RELHUM	=	58.3 PCT	
WIND DIR	=		DEG	WIND VEL	=	MPH	EXT DIST	=	40.0 FT	EXT CONFIG	=	ARC	MIKE HT	=		NBFR	=	
FNIN1	=	LBS	XNL	=		RPM	XNH	=		RPM	VB	=	1710.0 FPS	AE8	=	4.0 SQ IN		
FNRAMB	=	LBS	XNLR	=		RPM	XNHR	=		RPM	V18	=	2451.2 FPS	AE18	=	18.0 SQ IN		

RUNPT = 82F-400-0320 TAPE = X0320F TEST PT NO = 0320 NC = AEO61 CORR FAN SPED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0320 X03201

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.9	73.4	72.8	74.4	74.3	73.2	83.7	74.8	80.9	87.7	91.6	90.8	85.1	165.9
63	70.9	73.7	73.9	74.5	75.4	75.1	76.3	76.9	82.7	90.6	94.7	92.4	86.3	168.1
80	72.2	74.0	75.2	76.1	76.6	76.0	77.2	78.5	84.9	91.4	95.7	92.5	85.4	168.8
100	72.5	75.1	76.8	76.7	77.7	77.1	78.1	80.2	86.8	91.9	96.4	92.5	86.3	169.4
125	74.4	75.3	76.8	77.8	78.7	78.2	78.9	81.3	87.3	91.9	96.2	91.0	85.7	169.1
160	76.4	77.5	78.9	79.1	80.8	79.8	81.2	82.3	88.3	91.1	96.4	90.2	85.0	169.3
200	76.5	81.3	81.7	81.9	81.8	81.1	82.5	83.4	89.2	91.7	95.9	88.8	85.4	169.4
250	78.4	80.7	81.0	81.9	81.1	80.5	82.5	84.0	90.3	93.5	95.6	89.4	85.4	170.1
315	77.8	80.2	81.5	81.4	83.5	82.5	82.7	85.9	90.2	93.6	95.1	88.2	84.2	170.3
400	78.9	82.1	83.4	83.3	82.7	83.7	84.6	85.9	91.1	93.5	92.8	86.2	82.8	169.9
500	78.9	81.7	82.5	83.2	83.5	83.0	84.1	87.1	92.0	92.4	91.3	84.3	80.3	169.6
630	76.5	79.4	82.2	82.9	83.0	83.6	84.0	87.0	90.7	90.8	88.8	82.3	77.7	168.6
800	75.9	79.9	81.6	82.2	83.2	82.8	83.9	86.6	89.3	89.2	87.1	79.0	75.4	167.9
1000	74.1	77.7	80.2	81.2	81.2	82.6	82.6	85.5	88.7	88.1	85.2	78.1	72.8	167.4
1250	71.5	76.6	78.7	81.2	81.6	82.7	82.9	84.7	86.9	85.9	82.5	76.8	71.2	166.8
1600	71.5	76.9	78.3	80.2	79.3	80.4	81.4	83.0	85.0	83.2	80.4	72.9	66.6	166.1
2000	68.7	73.5	76.4	78.3	78.3	78.2	79.3	80.8	82.7	80.5	78.0	69.6	62.9	165.7
2500	63.4	70.3	72.9	75.3	75.0	75.9	76.7	76.9	80.3	78.3	72.7	64.7	54.6	165.2
3150	57.5	64.1	68.0	70.8	71.3	72.6	73.4	72.8	74.0	72.7	65.9	54.3	39.2	164.2
4000	47.6	56.1	60.8	63.8	62.8	64.0	64.0	64.1	69.2	66.7	58.0	42.3	21.8	164.7
5000	30.5	42.7	48.2	53.2	54.7	56.0	55.9	55.9	60.4	58.0	45.7	25.5		166.3
6300	8.7	25.3	32.9	38.8	40.6	42.0	41.6	41.3	46.2	44.8	27.8			170.1
8000			5.8	14.3	17.8	20.0	17.8	18.1	22.7	19.1				174.0
10000														171.3
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
DASPL	87.8	90.9	92.3	93.0	93.3	93.4	94.6	96.4	100.8	103.2	105.7	100.9	95.6	182.7
PNL	93.5	97.4	99.2	100.7	100.8	101.0	102.1	103.6	107.4	108.7	108.9	102.5	97.5	
PNLT	93.5	97.4	99.8	101.2	100.8	101.0	102.6	103.6	107.9	109.4	108.9	102.5	97.5	
DBA	83.5	87.3	89.1	90.3	90.5	91.0	91.7	93.9	97.2	97.6	96.9	90.2	85.9	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH280 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1710.0 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2451.2 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-400-0320 TAPE = X03201 TEST PT NO = 0320 NC = AE061 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0321 X0321C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.3	83.1	81.8	81.9	81.5	81.3	84.2	86.6	87.8	96.4	94.5	95.0	95.6	132.0
63	89.7	88.0	88.2	88.6	90.9	89.0	90.1	92.0	93.5	104.0	99.2	98.9	100.8	138.1
80	89.4	94.0	89.5	91.8	91.6	92.7	93.6	93.3	94.0	93.3	95.9	97.9	100.0	135.9
100	89.7	96.3	91.8	94.8	94.9	94.0	95.2	97.1	95.5	96.8	99.5	102.9	105.3	139.4
125	86.4	89.9	92.5	94.2	95.1	95.5	95.8	96.5	96.0	98.3	104.4	107.3	109.3	142.0
160	87.7	85.7	90.0	91.1	90.6	90.7	97.1	94.0	95.0	99.8	105.9	109.1	112.0	143.5
200	88.1	88.4	89.4	91.4	92.5	93.9	96.5	96.7	100.1	101.2	107.3	111.3	113.9	145.4
250	87.5	92.1	92.1	93.1	93.0	93.8	97.0	99.1	100.8	106.4	113.3	115.7	116.1	149.2
315	88.4	91.4	91.2	93.1	95.1	95.7	100.1	99.2	103.2	109.7	114.9	117.8	117.7	151.1
400	89.2	92.5	93.0	94.2	94.9	95.0	107.2	100.1	104.3	112.6	117.5	119.2	117.3	152.7
500	90.7	92.8	93.3	95.3	95.2	96.5	98.9	101.1	106.8	114.1	119.8	119.9	117.6	153.9
630	91.7	94.0	95.0	96.6	96.9	98.0	99.4	102.5	107.0	116.3	120.2	120.4	118.3	154.7
800	95.4	95.5	96.5	98.2	98.4	98.7	101.1	104.5	109.5	116.8	121.7	120.9	118.5	155.6
1000	100.9	101.5	100.7	100.9	100.4	100.0	101.9	105.5	111.0	116.3	122.2	121.1	118.3	155.9
1250	101.8	105.0	105.3	105.5	104.4	103.6	104.7	106.4	111.1	116.6	122.8	120.4	117.5	156.2
1600	103.3	101.9	102.3	103.1	103.7	103.3	105.2	107.5	112.3	115.7	122.8	119.2	115.5	155.8
2000	105.0	103.7	103.6	103.7	102.5	102.7	104.9	108.0	112.3	115.9	122.1	116.9	113.0	155.1
2500	103.5	104.5	105.1	105.4	105.2	104.1	105.2	109.6	113.2	117.8	120.8	115.1	111.6	154.8
3150	101.9	103.2	103.4	104.0	104.3	105.4	107.0	109.0	112.8	117.6	119.6	114.0	109.8	154.2
4000	99.3	100.2	102.3	103.4	103.9	104.7	106.3	109.4	113.0	117.2	117.9	112.7	108.2	153.4
5000	98.1	100.3	101.4	102.3	103.1	103.8	106.2	109.5	113.0	115.9	117.2	111.7	107.3	152.8
6300	96.2	98.5	100.6	101.9	103.0	103.5	105.5	109.2	112.0	114.8	114.9	109.9	105.9	151.8
8000	94.4	97.4	99.3	101.2	101.7	102.5	104.7	108.2	111.0	112.8	113.8	107.8	104.2	150.8
10000	92.6	96.1	98.1	100.4	101.1	102.6	104.4	107.6	109.9	112.5	112.5	107.5	103.0	150.6
12500	90.8	93.2	96.7	98.9	99.3	101.3	103.1	105.5	107.8	109.7	110.5	105.8	100.8	149.3
16000	87.8	91.8	93.7	97.2	97.4	99.1	100.9	103.8	106.6	107.7	108.9	103.2	98.0	148.8
20000	85.4	88.3	90.9	94.2	95.3	96.8	99.1	101.0	103.6	105.6	106.5	101.2	96.4	148.2
25000	81.6	85.9	88.2	91.7	93.2	95.2	96.9	98.9	101.9	104.3	102.4	98.5	92.2	148.3
31500	75.3	80.5	82.3	87.2	87.0	89.8	91.6	94.2	98.1	101.1	98.7	94.2	86.2	147.4
40000	71.8	77.4	79.6	82.9	84.0	86.9	88.7	91.6	96.7	101.2	97.6	92.7	83.0	150.4
50000	68.6	74.5	75.8	80.1	81.0	83.3	85.5	88.8	95.5	100.6	95.8	90.7	80.3	153.6
63000	64.8	72.9	72.1	78.9	76.6	79.7	81.4	87.2	93.8	100.0	94.9	88.7	77.2	157.8
80000	60.1	73.1	69.9	72.5	71.4	75.0	76.9	82.5	91.1	99.0	92.5	83.7	69.6	163.0
DASPL	112.0	113.0	113.6	114.5	114.6	115.0	117.3	119.7	123.4	127.9	132.0	130.1	128.0	168.8
PNL	124.9	126.1	126.7	127.5	127.6	128.2	130.3	132.6	136.3	140.8	143.8	140.2	137.4	
PNLT	124.9	127.2	128.0	128.6	127.6	128.7	131.5	132.6	136.3	140.8	143.8	140.2	137.4	
DBA	112.5	113.3	113.8	114.5	114.5	114.7	116.6	119.5	123.4	127.8	132.0	129.2	126.3	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICLE = ADH277	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = 0. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	DES WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1705.2 FPS	AE8 = 4.0 SQ IN	
FNRAMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2458.7 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0321	TAPE = X0321C	TEST PT NO = 0321	NC = AEO61	CORR FAN SPEED =	RPM

DATPROC - FLTRAN

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0321 XO321F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.3	83.1	81.8	81.9	81.5	81.3	84.2	86.6	87.8	96.4	94.5	95.0	95.6	132.0
63	89.7	88.0	88.2	88.6	90.9	89.0	90.1	92.0	93.5	104.0	99.2	98.9	100.8	138.1
80	89.4	94.0	89.5	91.8	91.6	92.7	93.6	93.3	94.0	93.3	95.9	97.9	100.0	135.9
100	89.7	96.3	91.8	94.8	94.9	94.0	95.2	97.1	95.5	96.8	99.5	102.9	105.3	139.4
125	86.4	89.9	92.5	94.2	95.1	95.5	95.8	96.5	96.0	98.3	104.4	107.3	109.3	142.0
160	87.7	85.7	90.0	91.1	90.6	90.7	97.1	94.0	95.0	99.8	105.9	109.1	112.0	143.5
200	86.1	88.4	89.4	91.4	92.5	93.9	96.5	96.7	100.1	101.2	107.3	111.3	113.9	145.4
250	87.5	92.1	92.1	93.1	93.0	93.8	97.0	99.1	100.8	106.4	113.3	115.7	116.1	149.2
315	88.4	91.4	91.2	93.1	95.1	95.7	100.1	99.2	103.2	109.7	114.9	117.8	117.7	151.1
400	89.2	92.5	93.0	94.2	94.9	95.0	107.2	100.1	104.3	112.6	117.5	119.2	117.3	152.7
500	90.7	92.8	93.3	95.3	95.2	96.5	98.9	101.1	106.8	114.1	119.8	119.9	117.6	153.9
630	91.7	94.0	95.0	96.6	96.9	98.0	99.4	102.5	107.0	116.3	120.2	120.4	118.3	154.7
800	95.4	95.5	96.5	98.2	98.4	98.7	101.1	104.5	109.5	116.8	121.7	120.9	118.5	155.6
1000	100.9	101.5	100.7	100.9	100.4	100.0	101.9	105.5	111.0	116.3	122.2	121.1	118.3	155.9
1250	101.8	105.0	105.3	105.5	104.4	103.6	104.7	106.4	111.1	116.6	122.8	120.4	117.5	156.2
1600	103.3	101.9	102.3	103.1	103.7	103.3	105.2	107.5	112.3	115.7	122.8	119.2	115.5	155.8
2000	105.0	103.7	103.6	103.7	102.5	102.7	104.9	108.0	112.3	115.9	122.1	116.9	113.0	155.1
2500	103.5	104.5	105.1	105.4	105.2	104.1	105.2	109.6	113.2	117.8	120.8	115.1	111.6	154.8
3150	101.9	103.2	103.4	104.0	104.3	105.4	107.0	109.0	112.8	117.6	119.6	114.0	109.8	154.2
4000	99.3	100.2	102.3	103.4	103.9	104.7	106.3	109.4	113.0	117.2	117.9	112.7	108.2	153.4
5000	98.1	100.3	101.4	102.3	103.1	103.8	106.2	109.5	113.0	115.9	117.2	111.7	107.3	152.8
6300	96.2	98.5	100.6	101.9	103.0	103.5	105.5	109.2	112.0	114.8	114.9	109.9	105.9	151.8
8000	94.4	97.4	99.3	101.2	101.7	102.5	104.7	108.2	111.0	112.8	113.8	107.8	104.2	150.8
10000	92.6	96.1	98.1	100.4	101.1	102.6	104.4	107.6	109.9	112.5	112.5	107.5	103.0	150.6
12500	90.8	93.2	96.7	98.9	99.3	101.3	103.1	105.5	107.8	109.7	110.5	105.8	100.8	149.3
16000	87.8	91.8	93.7	97.2	97.4	99.1	100.9	103.8	106.6	107.7	108.9	103.2	98.0	148.8
20000	85.4	88.3	90.9	94.2	95.3	96.8	99.1	101.0	103.6	105.6	106.5	101.2	96.4	148.2
25000	81.6	85.9	88.2	91.7	93.2	95.2	96.9	98.9	101.9	104.3	102.4	98.5	92.2	148.3
31500	75.3	80.5	82.3	87.2	87.0	89.8	91.6	94.2	98.1	101.1	98.7	94.2	86.2	147.4
40000	71.8	77.4	79.6	82.9	84.0	86.9	88.7	91.6	96.7	101.2	97.6	92.7	83.0	150.4
50000	68.6	74.5	75.8	80.1	81.0	83.3	85.5	88.8	95.5	100.6	95.8	90.7	80.3	153.6
63000	64.8	72.9	72.1	78.9	76.6	79.7	81.4	87.2	93.8	100.0	94.9	88.7	77.2	157.8
80000	60.1	73.1	69.9	72.5	71.4	75.0	76.9	82.5	91.1	99.0	92.5	83.7	69.6	163.0
DASPL	112.0	113.0	113.6	114.5	114.6	115.0	117.3	119.7	123.4	127.9	132.0	130.1	128.0	168.8
PNL	124.9	126.1	126.7	127.5	127.6	128.2	130.3	132.6	136.3	140.8	143.8	140.2	137.4	
PNLT	124.9	127.2	128.0	128.6	127.6	128.7	131.5	132.6	136.3	140.8	143.8	140.2	137.4	
DBA	181.5	193.6	190.8	194.3	193.0	196.4	198.3	203.8	212.0	219.6	213.3	205.1	191.9	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH277 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HIT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.2 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2458.7 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0321 TAPE = XO321F TEST PT NO = 0321 NC = AE061 CORR FAN SPEED = RPM

REF ID: A700 01 140

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0321 X03211

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	67.8	72.6	74.2	76.1	77.2	77.5	89.5	82.0	85.5	92.7	96.1	95.6	90.4	170.8
63	69.3	72.9	74.5	77.2	77.5	79.0	81.2	83.0	88.0	94.2	98.3	96.3	90.6	172.0
80	70.2	74.0	76.1	78.5	79.1	80.4	81.6	84.4	88.1	96.4	98.7	96.6	91.2	172.7
100	73.9	75.5	77.6	80.1	80.6	81.1	83.3	86.3	90.6	96.8	100.1	97.1	91.3	173.7
125	79.2	81.4	81.7	82.6	82.5	82.3	84.0	87.3	92.0	96.2	100.5	97.1	90.8	174.0
160	79.9	84.8	86.2	87.1	86.5	85.7	86.7	88.0	91.9	96.4	100.9	96.2	89.6	174.2
200	81.2	81.5	83.0	84.5	85.6	85.3	87.0	88.9	93.0	95.2	100.7	94.7	87.1	173.8
250	82.6	82.9	84.0	85.0	84.2	84.5	86.6	89.2	92.8	95.1	99.7	92.0	84.0	173.1
315	80.6	83.4	85.2	86.3	86.6	85.6	86.6	90.6	93.4	96.7	97.9	89.6	81.8	172.9
400	78.5	81.7	83.2	84.6	85.4	86.6	88.1	89.6	92.6	96.1	96.3	87.9	79.0	172.2
500	75.5	78.3	81.8	83.8	84.8	85.6	87.1	89.7	92.4	95.3	94.1	85.9	76.5	171.5
630	73.7	78.0	80.5	82.4	83.7	84.5	86.8	89.6	92.1	93.6	92.9	84.2	74.4	170.9
800	71.4	75.9	79.4	81.7	83.4	84.0	85.9	89.0	90.8	92.2	90.1	81.7	72.0	169.8
1000	69.1	74.5	77.9	80.8	81.8	82.8	84.8	87.9	89.6	89.8	88.5	78.9	69.1	168.8
1250	66.9	72.8	76.5	79.8	81.1	82.8	84.4	87.0	88.3	89.3	86.7	77.8	66.5	168.6
1600	64.1	69.3	74.7	78.0	79.0	81.2	82.8	84.6	85.8	85.9	83.8	74.8	61.9	167.3
2000	60.2	67.3	71.3	76.1	77.0	78.9	80.5	82.7	84.2	83.2	81.2	70.5	56.0	166.8
2500	56.0	62.6	67.6	72.4	74.3	76.1	78.1	79.2	80.2	79.9	77.1	65.8	49.5	166.2
3150	48.9	57.7	63.0	68.4	70.8	73.2	74.6	75.6	76.7	76.2	69.7	58.0	37.0	166.3
4000	36.3	47.7	53.3	60.6	61.7	64.9	66.3	67.5	69.0	68.2	59.7	44.8	16.5	165.5
5000	23.0	37.0	44.4	50.9	53.7	57.1	58.4	59.5	61.4	60.8	48.8	29.6		168.5
6300	2.1	19.8	28.5	37.3	40.6	43.6	45.1	45.9	48.2	46.0	29.2	3.5		171.6
8000			3.5	16.8	18.0	22.3	22.9	25.1	25.2	20.5				175.8
10000														181.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL 89.1 91.7 93.5 95.0 95.5 95.9 98.1 100.1 103.2 106.8 109.6 105.3 99.1 186.6  
 PNL 93.0 96.1 98.6 100.8 101.5 102.7 104.6 106.6 109.0 111.7 112.5 106.0 98.2  
 PNLT 93.0 96.7 99.2 101.4 102.1 102.7 104.6 106.6 109.6 112.3 112.5 107.3 98.2  
 DBA 81.9 85.2 87.9 90.1 91.2 92.2 93.9 96.5 98.6 100.4 100.5 93.0 84.9

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH277 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.2 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2458.7 FPS AEB = 18.0 SQ IN  
 RUNPT = 82F-ZER-0321 TAPE = X03211 TEST PT NO = 0321 NC = AEO61 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0322 X0322C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	
FREQ														PWL
50	87.3	86.1	81.8	82.6	82.5	80.3	81.5	86.9	88.3	91.7	95.5	91.2	99.6	131.8
63	90.9	89.2	87.7	87.1	90.6	87.0	87.4	91.8	93.0	103.0	100.2	92.9	99.3	137.2
80	88.9	93.2	88.7	92.0	90.9	90.7	92.1	91.5	93.5	92.3	94.9	96.4	101.5	135.3
100	88.7	94.0	89.5	91.8	92.4	91.0	93.7	95.1	93.5	94.1	97.0	100.9	104.6	137.5
125	86.4	89.2	90.5	93.2	93.8	92.5	94.1	94.7	93.2	95.8	101.9	105.8	108.3	140.4
160	85.2	82.2	87.7	88.6	88.6	87.0	94.1	90.8	92.2	96.5	103.2	106.4	110.3	141.1
200	86.3	85.6	85.9	87.4	88.3	88.6	93.0	93.4	96.1	97.2	103.3	108.5	111.7	142.5
250	83.5	87.1	86.8	88.9	88.5	88.6	93.2	95.6	96.6	101.7	108.3	112.5	113.1	145.5
315	84.4	86.7	86.9	89.1	89.8	89.7	95.8	95.2	98.4	105.0	110.6	114.3	113.7	147.1
400	85.0	87.3	88.3	89.2	90.2	89.8	102.4	95.8	100.3	108.4	113.2	115.4	112.8	148.6
500	85.7	87.8	89.1	91.5	91.4	91.1	94.9	96.8	101.3	110.6	115.8	116.4	110.8	149.9
630	86.4	89.0	90.5	91.9	92.4	92.2	95.9	98.3	102.7	112.3	116.9	116.1	108.5	150.5
800	88.4	89.5	91.0	92.5	93.6	93.5	97.4	100.3	105.0	113.1	118.7	114.9	105.8	151.3
1000	92.4	93.0	93.7	94.4	95.1	94.2	97.9	101.3	106.7	112.8	118.4	114.1	104.0	151.0
1250	93.5	96.3	96.6	97.7	96.9	96.3	99.7	102.4	107.6	113.1	118.5	112.4	103.7	151.1
1600	95.0	96.4	97.1	97.6	98.0	97.3	100.7	103.0	108.3	112.7	118.8	111.2	103.5	151.1
2000	95.8	96.9	98.3	98.7	98.0	97.4	101.6	104.0	108.8	112.6	118.1	110.7	103.0	150.8
2500	95.8	98.0	99.1	99.9	99.9	98.8	102.0	105.4	110.2	115.0	117.3	110.3	102.9	151.3
3150	95.1	97.4	98.2	99.5	99.6	99.4	103.3	105.2	109.5	114.6	117.4	109.3	102.6	151.1
4000	93.6	95.7	97.8	98.9	99.7	99.4	102.8	106.4	110.7	114.2	115.7	108.0	101.5	150.5
5000	93.3	95.6	97.4	98.3	98.6	99.3	103.0	106.0	111.3	113.6	114.2	107.0	100.8	150.0
6300	91.8	95.1	96.6	97.7	98.8	98.5	102.6	106.2	110.5	112.6	112.7	105.2	99.0	149.3
8000	90.2	93.8	95.3	97.5	97.2	98.5	102.0	105.8	109.5	111.3	110.6	103.1	97.5	148.4
10000	88.7	92.9	94.4	96.2	97.2	98.5	101.7	104.7	108.5	110.7	109.4	102.6	96.4	148.0
12500	87.2	90.3	93.1	95.1	95.4	97.2	100.2	102.9	106.7	107.7	106.6	100.7	94.9	146.6
16000	84.6	89.3	90.4	93.4	94.4	94.6	98.7	101.0	104.3	105.4	105.1	98.4	92.4	145.9
20000	81.9	85.4	87.8	90.8	91.6	92.3	96.2	97.5	101.7	102.5	103.1	95.8	90.9	145.0
25000	78.8	82.9	84.9	88.2	89.3	90.7	94.1	95.9	99.9	100.9	98.9	93.4	87.4	145.1
31500	72.3	77.6	79.4	83.8	83.8	85.4	88.4	90.0	95.4	96.6	94.8	88.0	81.0	143.6
40000	68.9	74.9	76.8	80.1	80.9	81.7	85.3	87.8	93.1	95.5	93.3	84.3	77.9	145.7
50000	66.0	73.4	73.3	76.0	77.7	78.6	81.1	83.2	90.9	94.9	91.7	80.5	73.7	148.4
63000	61.0	72.6	69.9	71.7	72.8	74.4	75.4	79.9	87.6	94.8	89.4	76.9	68.4	152.3
80000	54.2	71.0	66.8	66.6	67.0	70.1	69.2	73.7	83.7	92.2	87.9	69.9	59.9	156.4

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DASPL 105.3 107.5 108.4 109.7 110.0 109.9 113.8 116.3 120.7 124.9 128.5 125.1 121.5 164.2

PNL 118.4 120.6 121.6 122.8 123.1 122.8 126.7 129.3 133.6 137.8 140.9 135.3 130.0

PNLT 118.4 120.6 121.6 122.8 123.6 123.4 127.9 129.3 133.6 137.8 140.9 135.3 130.0

DBA 105.1 107.1 108.3 109.3 109.5 109.3 113.0 115.9 120.6 124.8 128.5 123.4 117.0

NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH283 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM VB = 1705.1 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2460.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0322 TAPE = X0322C TEST PT NO = 0322 NC = AE061 CORR FAN SPEED = RPM



## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0322 X03221

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.5	73.1	73.0	74.4	74.3	72.5	83.4	75.0	80.5	88.0	91.4	91.0	85.4	166.1
63	70.6	73.3	74.1	74.4	75.6	73.8	76.5	76.9	82.7	90.8	94.0	92.9	86.4	168.1
80	71.9	74.3	75.2	76.9	76.6	75.0	77.5	78.5	85.0	91.8	96.4	93.1	86.7	169.4
100	72.5	75.4	76.6	77.2	77.9	76.4	78.9	80.3	87.2	92.1	96.9	93.7	87.4	170.1
125	74.4	75.8	77.1	77.8	79.1	77.2	79.5	81.4	87.9	92.3	96.8	91.9	87.0	169.8
160	76.1	77.6	78.6	78.9	81.0	79.3	81.3	82.4	88.7	91.8	97.1	90.6	86.7	169.9
200	77.2	81.0	81.5	82.3	82.0	80.4	82.3	83.0	89.3	91.8	96.5	90.1	86.0	169.9
250	78.4	80.9	81.9	82.1	82.1	80.5	83.3	84.0	90.7	94.2	95.5	89.6	85.6	170.4
315	78.6	81.0	82.8	83.1	84.2	82.0	83.7	85.4	90.2	94.0	95.7	88.5	85.1	170.7
400	79.2	82.6	84.0	84.5	83.9	82.7	85.1	85.4	91.6	93.5	93.8	86.7	83.1	170.4
500	78.9	82.2	83.2	84.2	84.2	83.0	84.9	86.8	91.8	92.6	91.8	85.0	81.3	169.9
630	76.8	80.2	82.7	83.7	83.2	83.1	85.1	86.3	90.7	91.1	89.6	82.3	78.3	168.9
800	75.9	79.6	82.1	83.0	83.2	82.0	84.4	86.2	89.5	89.5	87.1	79.6	75.7	168.0
1000	73.8	78.7	80.9	82.0	81.4	81.9	83.6	85.5	88.5	88.7	85.5	78.5	73.5	167.6
1250	71.5	76.9	79.2	81.5	81.3	81.7	83.2	84.2	86.9	85.9	82.9	76.5	71.4	166.7
1600	68.9	75.2	77.6	79.6	79.8	80.1	81.5	82.2	84.5	83.5	80.9	73.2	66.9	165.9
2000	68.7	73.7	77.1	78.8	78.5	77.4	79.7	80.0	82.0	80.6	78.7	69.8	63.1	165.7
2500	63.9	71.0	73.1	76.1	75.2	74.6	76.8	76.0	79.9	78.1	73.0	64.8	55.0	165.2
3150	57.3	64.1	68.0	71.3	71.6	71.6	73.4	72.8	74.0	71.7	65.7	54.2	39.4	163.9
4000	47.1	56.1	60.5	64.6	63.1	63.5	64.5	63.4	68.7	66.8	58.7	42.3	22.5	164.7
5000	30.0	42.5	48.0	53.9	55.2	55.0	56.4	55.7	60.6	59.0	47.7	25.2		167.0
6300	8.4	25.1	32.9	39.1	41.8	42.0	42.1	40.3	46.2	45.6	28.5			170.7
8000			7.1	14.8	18.8	20.0	18.3	17.8	22.5	19.6				174.7
10000														172.0
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL 87.9 91.2 92.8 93.7 93.8 92.7 95.1 96.0 100.9 103.5 106.1 101.5 96.4 183.1  
 PNL 93.5 97.5 99.7 101.2 101.2 100.5 102.5 103.1 107.4 108.8 109.4 102.9 98.1  
 PNL7 93.5 97.5 100.3 101.7 101.7 100.5 103.0 103.1 107.9 109.5 109.4 102.9 98.1  
 DBA 83.5 87.5 89.8 90.9 90.8 90.3 92.2 93.4 97.2 97.8 97.4 90.7 86.6

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN)    SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)    DIAMETER RATIO = 7.973    FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D.C-D/DFSC-3/NAS3-23166

VEHICL = ADH283    TEST DATE = 08-25-82    LOCAT = C41 ANECH CH    CONFIG = 3    MODEL = AX    FLTVEL = 400. FPS  
 IAPLHA = SB59    IEGA = NO    PWL AREA = FULL SPHERE    TAMB F = 74.00    PAMB HG = 29.40    RELHUM = 58.3 PCT  
 WIND DIR =    DEG    WIND VEL =    MPH    EXT DIST = 2400.0 FT    EXT CONFIG = SL    MIKE HT =    NBFR =  
 FNIN1 =    LBS    XNL    RPM    XNH =    RPM    VB = 1705.1 FPS    AEB = 4.0 SQ IN  
 FNRAMB =    LBS    XNLR    RPM    XNHR =    RPM    V18 = 2460.5 FPS    AE18 = 18.0 SQ IN

RUNPT = 82F-400-0322    TAPE = X03221    TEST PT NO = 0322    NC = AE061    CORR FAN SPEED =    RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0325 X0325C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.0	83.6	83.1	87.1	84.0	85.3	86.7	86.6	87.8	96.4	94.8	94.7	95.6	132.4
63	93.7	90.0	87.2	93.3	92.1	92.0	92.4	92.3	93.0	104.8	99.4	98.6	100.8	138.9
80	90.4	94.2	90.5	93.0	92.6	94.2	95.1	93.3	94.7	94.1	96.7	99.6	101.8	137.1
100	91.2	98.0	92.8	96.1	96.2	95.8	97.2	98.3	96.3	97.8	100.7	104.4	106.6	140.7
125	86.9	90.4	92.7	95.2	96.1	96.2	96.6	97.2	96.5	99.3	105.4	108.6	110.0	143.0
160	87.4	86.5	90.2	91.3	91.4	92.0	98.9	94.5	96.0	100.8	106.9	110.1	112.8	144.4
200	88.6	89.4	89.9	92.4	93.3	95.1	97.8	97.4	100.9	101.9	108.1	112.5	114.9	146.4
250	88.8	93.3	92.8	94.1	93.2	94.8	98.7	100.1	101.1	107.4	114.0	116.7	116.9	150.0
315	89.9	92.4	91.2	94.1	95.8	96.9	101.3	99.5	103.9	110.7	115.9	118.3	118.5	151.9
400	90.5	93.3	93.8	95.2	95.9	95.5	108.4	100.8	105.3	113.4	119.0	120.7	118.3	154.0
500	91.7	93.0	94.1	96.3	95.9	97.5	100.2	102.1	106.8	115.4	120.8	120.9	119.1	155.0
630	92.7	94.5	95.2	96.9	97.6	98.5	99.6	103.0	107.7	117.3	121.7	121.4	119.5	155.9
800	96.2	96.7	97.7	98.7	98.6	99.5	101.9	105.0	110.2	117.8	123.4	121.4	119.3	156.8
1000	104.9	104.0	103.0	102.6	101.1	101.0	103.1	106.0	111.2	117.1	123.4	122.1	119.8	157.1
1250	108.5	109.5	107.6	108.0	105.9	104.6	105.4	106.9	112.1	117.4	124.3	122.7	119.7	157.9
1600	110.8	108.7	108.1	106.8	105.0	104.6	105.7	108.2	112.3	116.7	123.8	119.5	116.0	156.8
2000	110.5	108.9	110.1	110.7	108.3	104.7	105.9	109.0	112.8	116.6	122.9	116.9	114.2	156.3
2500	106.7	107.7	109.1	110.6	111.9	110.1	107.2	110.6	113.7	118.8	121.0	116.3	112.1	156.1
3150	105.1	106.2	106.4	107.5	108.8	110.6	111.0	110.0	113.3	118.6	119.6	114.0	111.1	155.3
4000	103.3	103.7	105.1	107.2	106.9	107.9	109.8	111.6	113.7	118.2	117.9	113.0	109.7	154.5
5000	102.3	103.5	104.7	105.6	106.1	106.8	109.2	112.3	114.3	117.1	117.7	112.2	108.8	154.2
6300	100.2	101.8	103.4	104.6	106.0	106.2	108.0	111.7	113.5	114.8	115.6	110.7	106.9	153.0
8000	98.9	100.9	102.3	103.9	104.4	105.5	106.9	110.7	112.5	114.3	114.0	108.8	104.9	152.3
10000	97.1	99.3	101.1	102.9	103.9	105.1	106.6	109.6	110.9	113.5	112.8	107.5	104.3	151.8
12500	95.0	96.4	99.2	101.7	101.8	104.0	104.8	107.5	109.6	110.5	111.2	106.6	103.3	150.7
16000	92.1	95.3	96.7	99.5	100.4	101.4	103.2	105.5	107.8	108.7	108.9	103.7	100.5	150.0
20000	89.6	92.3	93.7	97.2	97.8	99.5	101.4	102.7	105.1	106.4	107.0	101.7	98.1	149.5
25000	86.6	89.6	91.2	95.0	96.2	97.7	99.7	101.2	103.9	105.1	102.9	99.0	94.0	149.9
31500	80.1	84.3	86.1	90.4	90.2	93.3	94.3	96.4	100.3	102.6	99.2	94.7	87.7	149.2
40000	77.1	81.1	83.4	86.9	88.0	89.9	92.4	94.6	98.4	102.2	97.9	92.4	84.8	151.8
50000	73.6	78.0	80.1	84.1	85.3	87.5	89.0	92.0	97.5	101.6	97.0	90.9	81.8	155.1
63000	71.3	76.1	76.9	79.4	81.6	84.7	85.4	90.9	96.1	100.7	95.9	88.0	77.9	159.1
80000	67.9	75.1	72.9	75.5	77.1	80.5	81.6	86.0	92.9	99.5	93.8	83.5	72.8	163.9
OASPL	117.0	116.9	117.2	118.2	118.1	118.1	119.5	121.4	124.3	128.9	133.1	131.1	129.2	169.9
PNL	129.2	129.3	130.1	131.5	132.0	131.9	133.1	134.4	137.0	141.7	144.4	141.1	138.4	
PNLT	129.2	130.4	130.1	132.5	133.1	131.9	134.3	134.9	137.0	141.7	144.4	141.1	138.4	
DBA	117.7	117.4	117.7	118.5	118.4	118.1	119.0	121.1	124.1	128.7	132.9	130.1	127.6	

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH275	TEST DATE = 08-25-82	LOCAT = C41 ANECH CH	CONFIG = 3	MODEL = AX	FLTVEL = Q. FPS
IAPLHA = SB59	IEGA = NO	PWL AREA = FULL SPHERE	TAMB F = 71.00	PAMB HG = 29.40	RELHUM = 70.8 PCT
WIND DIR =	WIND VEL = MPH	EXT DIST = 40.0 FT	EXT CONFIG = ARC	MIKE HT =	NBFR =
FNIN1 =	LBS XNL =	RPM XNH =	RPM V8 = 1707.1 FPS	AE8 = 4.0 SQ IN	
FNRMB =	LBS XNLR =	RPM XNHR =	RPM V18 = 2515.3 FPS	AE18 = 18.0 SQ IN	
RUNPT = 82F-ZER-0325	TAPE = X0325C	TEST PT NO = 0325	NC = AE061	CORR FAN SPEED =	RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0325 X0325F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	86.0	83.6	83.1	87.1	84.0	85.3	86.7	86.6	87.8	86.4	84.8	84.7	85.6	132.4
63	93.7	90.0	87.2	93.3	92.1	92.0	92.4	92.3	93.0	104.8	99.4	98.6	100.8	138.9
80	90.4	94.2	90.5	93.0	92.6	94.2	95.1	93.3	94.7	94.1	96.7	99.6	101.8	137.1
100	91.2	98.0	92.8	96.1	96.2	95.8	97.2	98.3	96.3	97.8	100.7	104.4	106.6	140.7
125	86.9	90.4	92.7	95.2	96.1	96.2	96.6	97.2	96.5	99.3	105.4	108.6	110.0	143.0
160	87.4	86.5	90.2	91.3	91.4	92.0	98.9	94.5	96.0	100.8	106.9	110.1	112.8	144.4
200	88.6	89.4	89.9	92.4	93.3	95.1	97.8	97.4	100.9	101.9	108.1	112.5	114.9	146.4
250	88.8	93.3	92.8	94.1	93.2	94.8	98.7	100.1	101.1	107.4	114.0	116.7	116.9	150.0
315	89.9	92.4	91.2	94.1	95.8	96.9	101.3	99.5	103.9	110.7	115.9	118.3	118.5	151.9
400	90.5	93.3	93.8	95.2	95.9	95.5	108.4	100.8	105.3	113.4	119.0	120.7	118.3	154.0
500	91.7	93.0	94.1	96.3	95.9	97.5	100.2	102.1	106.8	115.4	120.8	120.9	119.1	155.0
630	92.7	94.5	96.2	96.9	97.6	98.5	99.6	103.0	107.7	117.3	121.7	121.4	119.5	155.9
800	96.2	96.7	97.7	98.7	98.6	99.5	101.9	105.0	110.2	117.8	123.4	121.4	119.3	156.8
1000	104.9	104.0	103.0	102.6	101.1	101.0	103.1	106.0	111.2	117.1	123.4	122.1	119.8	157.1
1250	108.5	109.5	107.6	108.0	105.9	104.6	105.4	106.9	112.1	117.4	124.3	122.7	119.7	157.9
1600	110.8	108.7	108.1	106.8	105.0	104.6	105.7	108.2	112.3	116.7	123.8	119.5	116.0	156.8
2000	110.5	108.9	110.1	110.7	108.3	104.7	105.9	109.0	112.8	116.6	122.9	116.9	114.2	156.3
2500	106.7	107.7	109.1	110.6	111.9	110.1	107.2	110.6	113.7	118.8	121.0	116.3	112.1	156.1
3150	105.1	106.2	106.4	107.5	108.8	110.6	111.0	110.0	113.3	118.6	119.6	114.0	111.1	155.3
4000	103.3	103.7	105.1	107.2	106.9	107.9	109.8	111.6	113.7	118.2	117.9	113.0	109.7	154.5
5000	102.3	103.5	104.7	105.6	106.1	106.8	109.2	112.3	114.3	117.1	117.7	112.2	108.8	154.2
6300	100.2	101.8	103.4	104.6	106.0	106.2	108.0	111.7	113.5	114.8	115.6	110.7	106.9	153.0
8000	98.9	100.9	102.3	103.9	104.4	105.5	106.9	110.7	112.5	114.3	114.0	108.8	104.9	152.3
10000	97.1	99.3	101.1	102.9	103.9	105.1	106.6	109.6	110.9	113.5	112.8	107.5	104.3	151.8
12500	95.0	96.4	99.2	101.7	101.8	104.0	104.8	107.5	109.6	110.5	111.2	106.6	103.3	150.7
16000	92.1	95.3	96.7	99.5	100.4	101.4	103.2	105.5	107.8	108.7	108.9	103.7	100.5	150.0
20000	89.6	92.3	93.7	97.2	97.8	99.5	101.4	102.7	105.1	106.4	107.0	101.7	98.1	149.5
25000	86.6	89.6	91.2	95.0	96.2	97.7	99.7	101.2	103.9	105.1	102.9	99.0	94.0	149.9
31500	80.1	84.3	86.1	90.4	90.2	93.3	94.3	96.4	100.3	102.6	99.2	94.7	87.7	149.2
40000	77.1	81.1	83.4	86.9	88.0	89.9	92.4	94.6	98.4	102.2	97.9	92.4	84.8	151.8
50000	73.6	78.0	80.1	84.1	85.3	87.5	89.0	92.0	97.5	101.6	97.0	90.9	81.8	155.1
63000	71.3	76.1	76.9	79.4	81.6	84.7	85.4	90.9	96.1	100.7	95.9	88.0	77.9	159.1
80000	67.9	75.1	72.9	75.5	77.1	80.5	81.6	86.0	92.9	99.5	93.8	83.5	72.8	163.9
OASPL	117.0	116.9	117.2	118.2	118.1	118.1	119.5	121.4	124.3	128.9	133.1	131.1	129.2	169.9
PNL	129.2	129.3	130.1	131.5	132.0	131.9	133.1	134.4	137.0	141.7	144.4	141.1	138.4	
PNLT	129.2	130.4	130.1	132.5	133.1	131.9	134.3	134.9	137.0	141.7	144.4	141.1	138.4	
DBA	188.9	195.7	194.1	196.8	198.4	201.7	202.8	207.4	213.8	220.1	214.5	204.8	194.4	

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICLE	= ADH275	TEST DATE	= 08-25-82	LOCAT	= C41 ANECH CH	CONFIG	= 3	MODEL	= AX	FLTVEL	= 0. FPS
IAPLHA	= SB59	IEGA	= NO	PWL AREA	= FULL SPHERE	TAMB F	= 71.00	PAMB HG	= 29.40	RELHUM	= 70.8 PCT
WIND DIR	=	DEG WIND VEL	= MPH	EXT DIST	= 40.0 FT	EXT CONFIG	= ARC	MIKE HT	=	NBFR	=
FNIN1	=	LBS XNL	=	RPM XNH	=	RPM VB	= 1707.1 FPS	AE8	= 4.0 SQ IN		
FNRAMB	=	LBS XNLR	=	RPM XNHR	=	RPM V18	= 2515.3 FPS	AE18	= 18.0 SQ IN		

RUNPT = 82F-ZER-0325 TAPE = X0325F TEST PT NO = 0325 NC = AE061 CORR FAN SPEED = RPM

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## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0325 X03251

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	69.1	73.4	75.0	77.1	78.2	78.0	90.7	82.7	86.5	93.5	97.6	97.1	91.4	172.1
63	70.3	73.1	75.2	78.2	78.2	80.0	82.5	84.0	88.0	95.5	99.3	97.3	92.1	173.0
80	71.2	74.5	77.4	78.7	79.9	80.9	81.9	84.9	88.9	97.4	100.2	97.6	92.4	173.9
100	74.6	76.7	78.8	80.6	80.8	81.8	84.1	86.8	91.3	97.8	101.9	97.6	92.0	174.8
125	83.2	83.9	84.0	84.4	83.3	83.3	85.3	87.8	92.2	97.0	101.8	98.1	92.3	175.1
160	86.6	89.3	88.4	89.6	88.0	86.7	87.5	88.5	92.9	97.1	102.4	98.5	91.8	175.9
200	88.7	88.2	88.8	88.3	86.8	86.6	87.5	89.7	93.0	96.2	101.7	94.9	87.6	174.8
250	88.1	88.2	90.5	92.0	90.0	86.5	87.6	90.2	93.3	95.9	100.4	92.0	85.2	174.3
315	83.9	86.7	89.2	91.6	93.3	91.6	88.6	91.6	93.9	97.7	98.2	90.8	82.3	174.1
400	81.7	84.7	86.2	88.1	89.9	91.9	92.1	90.6	93.1	97.1	96.3	87.9	80.3	173.3
500	79.5	81.8	84.5	87.5	87.8	88.9	90.6	91.9	93.2	96.3	94.1	86.2	78.0	172.5
630	78.0	81.3	83.8	85.6	86.7	87.5	89.8	92.3	93.4	94.8	93.4	84.7	75.9	172.3
800	76.4	79.1	82.2	84.4	86.4	86.7	88.4	91.5	92.3	92.2	90.8	82.5	73.0	171.0
1000	73.6	78.0	80.9	83.6	84.6	85.8	87.1	90.4	91.1	91.3	88.8	79.9	69.8	170.3
1250	71.4	76.0	79.5	82.3	83.9	85.3	86.6	89.0	89.3	90.3	87.0	77.8	67.7	169.8
1600	68.4	72.5	77.2	80.8	81.5	84.0	84.6	86.6	87.5	86.6	84.6	75.5	64.4	168.7
2000	64.5	70.8	74.3	78.3	80.0	81.2	82.8	84.4	85.4	84.2	81.2	71.0	58.5	168.1
2500	60.2	66.6	70.3	75.4	76.8	78.8	80.4	80.9	81.7	80.7	77.6	66.3	51.3	167.5
3150	53.9	61.5	66.0	71.6	73.8	75.7	77.3	77.8	78.7	76.9	70.2	58.5	38.7	167.9
4000	41.1	51.4	57.0	63.8	64.9	68.4	69.0	69.8	71.3	69.7	60.2	45.3	18.0	167.3
5000	28.3	40.7	48.1	54.9	57.7	60.1	62.1	62.5	63.2	61.8	49.1	29.3		169.9
6300	7.1	23.3	32.8	41.3	44.9	47.9	48.6	49.2	50.2	47.0	30.5	3.7		173.1
8000			8.2	17.3	23.0	27.3	26.9	28.8	27.4	21.2				177.2
10000														181.9
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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OASPL 94.4 95.8 97.2 98.8 99.1 99.1 100.2 101.6 103.9 107.7 110.7 106.3 100.4 187.8  
 PNL 97.8 99.9 102.3 104.7 105.8 106.2 107.2 108.3 110.0 112.6 113.4 107.1 99.8  
 PNLT 97.8 100.4 102.8 105.3 106.4 106.2 107.2 108.3 110.5 113.2 113.4 108.2 99.8  
 DBA 86.5 88.9 91.3 93.6 94.7 95.5 96.5 98.6 99.7 101.3 101.0 93.7 86.1

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH275 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1707.1 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2515.3 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0325 TAPE = X03251 TEST PT NO = 0325 NC = AE061 CORR FAN SPEED = RPM

## UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0326 X0326C  
 BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	88.8	87.1	82.6	84.6	84.2	82.3	86.2	87.6	88.8	95.9	96.3	92.7	98.6	132.9
63	89.9	92.0	87.7	88.6	91.1	88.5	93.1	92.0	93.5	104.3	99.7	93.4	99.3	138.1
80	90.4	95.0	90.5	92.8	92.4	93.2	93.9	93.0	93.7	93.3	95.9	97.9	102.3	136.6
100	90.2	95.5	91.0	93.3	94.2	93.5	95.7	96.8	94.8	95.3	98.5	102.4	106.1	139.1
125	87.2	89.9	92.0	93.9	94.1	94.2	95.1	95.5	94.5	96.3	102.4	106.6	109.0	141.1
160	86.2	83.0	88.7	89.3	89.1	89.0	94.9	91.3	93.0	97.3	103.9	107.1	110.8	141.8
200	87.6	86.6	86.9	87.9	89.0	90.4	94.0	94.4	97.4	98.5	104.3	109.3	112.7	143.5
250	84.8	87.3	87.6	89.4	89.7	90.3	94.0	96.1	97.8	102.9	109.8	113.2	113.9	146.4
315	85.4	87.4	87.4	89.6	90.8	92.2	96.8	95.7	99.7	107.0	112.1	115.3	114.7	148.3
400	86.2	88.0	89.0	90.2	91.4	91.8	103.2	96.6	100.5	108.6	114.5	116.7	113.6	149.6
500	87.2	88.5	90.3	92.0	92.4	93.6	95.7	98.1	102.8	111.6	117.0	116.9	112.1	150.8
630	87.4	89.5	91.5	92.6	93.1	94.2	96.4	99.3	103.5	113.8	118.4	116.6	109.5	151.7
800	90.2	90.2	92.5	93.5	94.1	95.5	97.9	101.3	105.7	113.8	119.7	115.6	106.8	152.2
1000	95.9	95.7	95.2	96.1	95.9	96.5	98.9	102.5	107.5	114.1	119.4	115.1	105.5	152.1
1250	103.3	104.3	101.8	101.2	99.2	98.8	100.7	103.4	108.1	114.1	119.5	114.2	104.0	152.3
1600	106.5	107.4	107.8	106.3	102.0	100.6	102.2	104.5	109.1	113.7	120.0	112.7	104.7	152.9
2000	105.5	106.7	108.3	109.2	107.8	102.9	102.6	105.2	109.6	114.1	119.1	111.7	103.5	152.9
2500	102.5	104.0	105.8	107.6	109.7	108.8	105.5	107.4	111.2	115.3	118.3	111.3	103.9	153.1
3150	101.1	102.2	102.4	104.2	105.3	107.9	109.8	107.7	110.8	115.6	117.9	110.1	102.6	152.7
4000	98.8	100.0	102.1	103.4	103.2	104.4	107.6	110.1	112.0	115.2	115.4	108.5	102.3	151.8
5000	98.1	99.6	100.7	102.1	103.1	103.6	106.0	109.8	113.0	114.6	115.2	108.0	100.8	151.7
6300	97.0	98.1	99.6	101.4	102.1	103.0	105.6	109.5	112.5	113.4	113.4	106.2	100.0	150.9
8000	94.4	97.0	98.1	100.5	101.0	102.3	104.7	108.1	111.8	111.8	111.9	104.1	98.0	150.0
10000	93.0	96.2	97.2	99.5	99.7	101.5	104.2	107.4	110.5	111.2	110.4	103.3	96.9	149.6
12500	90.9	92.6	95.4	98.1	98.2	100.4	102.0	105.4	108.7	108.7	107.9	101.7	95.2	148.3
16000	87.6	91.3	92.7	96.2	96.6	98.1	100.2	103.5	106.6	106.4	106.3	98.9	93.4	147.6
20000	85.4	87.6	90.0	93.8	94.6	95.8	98.2	100.5	103.9	103.5	104.1	96.5	91.2	146.8
25000	81.8	84.9	86.9	90.7	91.6	93.7	96.6	98.6	102.4	103.1	100.4	94.1	88.1	147.4
31500	75.6	79.4	80.9	86.0	86.3	88.1	90.6	93.0	97.9	99.3	96.6	89.0	82.0	146.0
40000	72.4	76.1	78.1	81.9	83.1	85.2	87.1	90.8	96.1	97.3	94.3	85.5	78.6	147.8
50000	68.7	73.4	74.0	77.8	79.4	81.4	83.6	87.4	94.2	96.4	92.7	82.0	74.2	150.4
63000	64.8	73.1	69.9	72.9	74.5	77.7	78.4	84.7	92.8	95.3	90.9	78.2	68.6	154.1
80000	60.2	72.7	67.3	66.4	68.2	71.4	73.0	78.9	89.5	94.7	87.6	71.1	60.9	159.0

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DASPL 112.3 113.6 114.3 115.2 115.2 115.2 116.7 118.8 122.2 125.8 129.5 126.0 122.4 165.9

PNL 124.7 125.9 127.1 128.3 129.2 128.9 130.9 132.1 134.9 138.8 141.6 136.3 130.7

PNLT 124.7 126.4 127.1 128.3 130.2 130.1 132.0 132.1 134.9 138.8 141.6 136.3 130.7

DBA 113.0 114.1 115.0 115.7 115.7 115.4 116.5 118.5 121.9 125.7 129.4 124.3 117.9

## NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH281 TEST DATE = 08-25-82 LDCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1711.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2517.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0326 TAPE = X0326C TEST PT NO = 0326 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0326 XO326F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50														
63														
80														
100														
125														
160														
200														
250	91.9	93.3	92.2	92.5	91.2	90.3	92.1	92.5	96.2	102.6	107.2	110.9	112.1	144.5
315	91.9	93.3	92.2	92.5	92.6	92.4	95.5	92.9	97.3	104.5	110.0	113.0	112.4	146.2
400	93.1	93.8	92.4	93.0	93.3	92.0	101.9	93.8	100.8	108.9	114.0	115.1	113.6	148.9
500	93.9	94.4	94.0	93.6	94.3	93.9	94.9	96.2	102.3	112.3	117.2	117.3	114.8	151.4
630	94.9	94.9	95.3	95.5	95.1	94.6	95.7	97.7	104.6	112.5	118.9	117.6	114.8	152.3
800	95.1	95.9	96.5	96.1	96.2	96.0	97.2	99.5	107.0	113.5	119.6	118.6	116.2	153.2
1000	97.9	96.7	97.6	97.1	97.5	97.1	98.4	101.0	107.4	113.3	119.4	117.6	114.7	152.8
1250	101.5	100.3	98.8	98.7	101.0	99.6	100.2	101.7	108.6	113.1	120.2	116.4	115.8	153.2
1600	110.3	110.1	106.3	104.2	103.9	101.6	101.9	103.1	109.3	113.7	119.4	115.5	114.8	153.4
2000	113.4	113.1	112.2	109.4	110.0	104.2	102.6	104.0	111.3	115.3	119.1	115.6	115.6	154.8
2500	110.6	111.2	112.1	112.2	112.6	110.4	105.8	106.5	111.2	115.9	118.9	114.6	114.7	155.1
3150	110.1	110.6	111.3	111.8	108.6	109.9	110.4	107.2	113.1	116.0	116.9	113.3	114.6	154.5
4000	108.7	108.8	108.0	108.6	106.9	107.0	108.8	110.2	114.0	115.2	116.3	112.4	112.7	153.7
5000	106.3	106.7	107.8	108.1	107.2	106.6	107.5	109.9	113.5	114.0	114.6	110.7	112.0	152.8
6300	105.5	106.3	106.5	106.9	106.1	106.0	107.1	109.6	112.8	112.5	113.0	108.4	109.7	151.9
8000	104.3	104.6	105.3	106.1	105.0	105.3	106.2	108.1	111.8	112.0	111.6	107.8	108.7	151.3
10000	101.5	103.4	103.6	105.0	103.7	104.5	105.7	107.4	110.5	110.0	109.8	106.9	108.0	150.5
12500	99.8	102.3	102.4	103.7	102.8	103.4	103.7	105.7	108.8	108.3	108.8	104.7	106.7	149.9
16000	100.0	100.4	101.8	102.9	101.2	101.1	101.9	103.8	106.7	105.9	107.1	102.9	105.1	149.4
20000	96.3	98.7	98.7	100.7	99.2	98.8	99.9	100.9	105.6	105.8	103.5	100.5	101.9	149.2
25000	93.5	94.5	95.4	97.6	96.2	96.7	98.3	98.9	101.6	102.5	100.2	95.5	95.5	148.4
31500	89.1	90.9	91.5	93.7	90.9	91.1	92.1	93.0	100.7	101.4	98.7	92.9	93.0	148.8
40000	82.1	84.6	84.7	88.2	87.7	88.2	88.5	90.8	99.1	100.9	97.5	89.8	88.9	151.0
50000	78.5	80.9	81.5	83.7	84.0	84.4	85.0	87.4	98.7	100.7	96.6	86.9	84.3	154.5
63000	73.9	77.3	76.5	78.7	79.1	80.7	79.8	84.7	96.9	101.5	94.9	81.3	78.1	159.2
80000	68.4	75.5	70.9	72.3	72.1	74.4	74.4	78.9	87.0	91.7	85.1	71.5	68.3	156.5
DASPL	119.0	119.3	119.1	118.9	118.2	117.2	117.4	118.4	122.9	125.7	129.5	127.2	126.2	167.1
PNL	131.4	131.6	131.8	132.0	131.5	130.2	130.7	131.1	135.5	138.3	140.9	137.8	137.9	
PNLT	133.3	132.8	133.3	132.0	132.6	131.4	131.8	131.1	135.5	138.3	140.9	137.8	137.9	
DBA	190.2	196.3	192.7	194.4	194.4	196.3	196.1	200.6	210.3	214.8	208.3	195.3	192.3	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH281 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1711.1 FPS AE8 = 4.0 SQ IN  
 FNIRMB = LBS XNLR = RPM XNHR = RPM V18 = 2517.2 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-400-0326 TAPE = XO326F TEST PT NO = 0326 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0326 X03261

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	71.6	73.9	73.6	74.9	75.6	74.5	84.2	75.8	82.0	89.0	92.6	91.5	86.6	167.0
63	72.5	74.5	75.2	75.5	76.6	76.3	77.2	78.1	83.5	92.4	95.7	93.7	87.8	169.4
80	73.4	75.0	76.4	77.4	77.3	77.0	78.0	79.6	85.8	92.5	97.4	93.9	87.7	170.3
100	73.5	75.9	77.6	77.9	78.4	78.4	79.4	81.3	88.1	93.5	98.0	94.8	89.0	171.3
125	76.2	76.6	78.6	78.8	79.6	79.4	80.5	82.7	88.4	93.2	97.8	93.6	87.2	170.9
160	79.6	80.1	79.7	80.3	83.0	81.8	82.2	83.3	89.5	92.8	98.4	92.2	87.9	171.2
200	88.2	89.7	87.0	85.7	85.8	83.6	83.8	84.5	90.0	93.2	97.3	91.0	86.4	171.5
250	90.9	92.4	92.7	90.6	91.6	86.0	84.3	85.2	91.8	94.5	96.6	90.7	86.7	172.8
315	87.7	90.1	92.3	93.2	94.0	92.0	87.2	87.5	91.3	94.8	96.0	89.1	84.9	173.1
400	86.8	89.1	91.1	92.4	89.7	91.2	91.5	87.8	92.9	94.5	93.5	87.2	83.8	172.6
500	84.9	87.0	87.5	89.0	87.7	88.0	89.6	90.5	93.4	93.3	92.5	85.6	80.9	171.7
630	82.0	84.4	87.0	88.2	87.7	87.3	88.0	89.9	92.7	91.8	90.3	83.2	79.1	170.9
800	80.7	83.6	85.3	86.7	86.4	86.5	87.4	89.4	91.7	89.8	88.1	80.2	75.7	170.0
1000	79.1	81.7	83.9	85.7	85.2	85.6	86.3	87.7	90.4	89.0	86.3	78.9	73.6	169.3
1250	75.8	80.1	82.0	84.5	83.8	84.7	85.7	86.9	88.8	86.7	84.0	77.2	71.4	168.5
1600	73.2	78.4	80.4	82.8	82.5	83.4	83.4	84.8	86.8	84.4	82.1	73.6	67.8	167.9
2000	72.4	76.0	79.4	81.8	80.8	80.9	81.4	82.6	84.2	81.5	79.5	70.2	63.1	167.5
2500	66.9	73.0	75.4	78.8	78.2	78.1	79.0	79.1	82.3	80.1	74.1	65.0	55.0	167.3
3150	60.8	66.4	70.2	74.3	73.8	74.6	76.0	75.5	76.5	74.4	67.4	55.1	40.2	166.4
4000	50.1	58.1	62.5	67.1	65.6	65.2	66.7	66.3	71.7	68.5	59.7	43.6	23.3	166.8
5000	33.3	44.2	49.5	56.2	57.4	58.5	58.2	58.7	63.9	60.5	48.7	26.7		169.0
6300	11.9	26.3	34.2	40.8	43.6	44.7	44.6	44.6	51.4	46.1	30.0			172.5
8000			7.8	16.6	20.6	23.3	21.3	22.6	28.2	22.1				177.3
10000														174.5
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														
OASPL	95.9	97.9	98.9	99.4	99.2	98.2	98.2	98.6	102.3	104.4	107.1	102.5	97.3	185.1
PNL	100.8	103.2	104.6	106.0	106.0	105.2	105.5	105.6	109.0	109.9	110.1	103.8	98.8	
PNLT	101.8	103.8	105.4	106.0	106.6	105.7	106.1	105.6	109.6	110.4	110.1	103.8	98.8	
DBA	90.2	92.7	94.3	95.7	95.1	95.0	95.4	96.3	99.0	98.6	98.1	91.4	87.0	

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH281 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1711.1 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2517.2 FPS AEB = 18.0 SQ IN  
 RUNPT = 82F-400-0326 TAPE = X03261 TEST PT NO = 0326 NC = AE061 CORR FAN SPEED = RPM

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OF POOR QUALITY

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0329 X0329C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	85.3	85.8	86.6	87.2	85.6	86.7	87.6	88.3	92.9	95.5	95.0	96.4	132.2
63	89.4	92.5	91.0	93.3	93.9	92.2	93.6	92.5	92.7	103.5	99.7	98.1	100.3	138.4
80	91.9	96.0	91.7	94.3	93.9	95.2	96.9	95.0	96.2	95.1	97.4	100.4	102.8	138.3
100	92.0	98.8	93.5	96.6	96.9	96.5	98.2	99.6	97.5	98.8	101.5	104.9	107.6	141.6
125	88.7	91.9	94.0	96.4	97.3	97.2	97.8	98.7	98.2	100.5	106.9	109.6	111.3	144.2
160	88.9	88.0	91.7	93.1	92.9	93.0	100.1	96.0	97.2	101.8	107.9	111.6	114.5	145.9
200	90.6	91.1	91.1	93.9	95.3	96.4	99.3	98.7	102.6	103.7	109.6	113.8	116.7	147.9
250	89.8	94.1	94.1	95.9	95.5	95.6	99.7	101.4	103.3	108.9	115.3	117.7	118.1	151.2
315	91.4	93.2	93.2	95.4	96.8	98.2	102.8	101.5	105.4	112.0	117.4	120.1	119.5	153.3
400	91.7	94.8	95.3	96.7	97.4	97.5	109.7	102.8	107.0	115.4	120.0	120.9	119.3	154.9
500	93.7	95.0	96.1	98.0	98.2	99.0	101.9	103.6	109.1	117.1	122.5	122.2	119.1	156.4
630	94.4	96.2	97.2	98.6	99.1	100.5	102.1	105.3	110.2	118.8	123.4	122.6	120.0	157.3
800	98.7	98.7	99.0	100.5	100.6	101.5	103.6	107.3	112.0	119.3	124.4	122.4	119.8	157.9
1000	119.4	116.7	108.7	109.1	106.1	105.2	106.6	108.3	113.2	120.1	127.7	128.1	123.0	161.9
1250	112.5	112.0	109.1	108.7	106.7	105.6	106.7	108.9	114.1	118.9	124.5	122.7	118.5	158.4
1600	111.8	112.2	112.8	113.3	109.7	106.8	107.4	109.5	114.8	118.2	124.0	120.2	116.5	158.0
2000	111.0	109.7	111.8	114.2	116.0	113.9	108.4	110.2	114.6	118.4	123.1	118.7	114.0	157.9
2500	108.7	109.0	109.6	110.6	112.9	114.3	111.2	111.8	115.7	120.3	121.3	117.6	112.8	157.4
3150	107.4	108.2	109.2	109.7	109.3	111.4	114.5	112.7	115.3	119.9	120.1	115.5	111.1	156.7
4000	105.3	106.0	107.8	109.2	109.7	108.9	111.8	114.1	115.5	118.9	118.4	113.7	109.0	155.7
5000	104.3	105.8	106.9	108.1	108.9	109.3	110.2	114.5	116.3	117.6	118.4	113.2	108.0	155.5
6300	102.5	104.3	105.9	107.1	108.5	108.5	110.3	113.5	115.0	116.1	116.9	111.4	106.7	154.5
8000	100.9	103.4	104.5	106.4	106.7	108.0	109.4	112.5	113.7	114.8	114.8	109.3	104.7	153.5
10000	99.1	102.1	103.6	105.6	105.9	107.4	108.6	111.3	112.7	114.3	113.5	108.7	103.5	153.2
12500	97.5	99.4	102.0	104.2	104.5	106.3	106.6	109.5	110.8	112.0	111.5	107.1	102.3	152.1
16000	94.8	98.5	99.4	102.5	102.6	103.9	104.9	107.5	109.3	109.4	109.6	104.7	100.0	151.5
20000	93.1	95.0	97.2	100.2	100.5	102.0	103.6	104.2	106.6	107.4	108.0	102.7	97.4	151.0
25000	89.9	92.9	95.2	98.5	98.7	100.7	101.9	103.4	105.2	107.6	103.2	100.2	94.2	151.9
31500	83.3	88.8	89.8	93.9	94.2	95.8	96.6	99.2	101.6	104.4	99.7	95.7	87.4	151.1
40000	81.1	86.6	87.9	90.7	92.2	93.6	94.2	97.6	100.4	103.5	98.6	92.9	84.0	153.6
50000	77.9	84.5	84.8	88.1	89.8	92.0	92.0	94.8	99.2	103.1	97.5	91.4	81.6	156.9
63000	75.1	83.9	83.1	84.7	86.8	89.0	88.9	93.7	98.1	103.5	96.4	90.5	77.9	161.6
80000	71.9	83.4	79.9	80.3	82.6	86.3	84.6	90.5	95.6	103.0	93.5	86.2	71.8	167.0
OASPL	122.0	120.9	119.7	121.0	121.2	121.1	121.7	123.3	126.1	130.3	134.4	133.1	130.1	172.1
PNL	131.4	131.5	132.0	133.6	134.4	134.6	135.8	136.5	138.8	143.0	145.1	142.7	139.0	
PNLT	136.0	135.3	133.6	135.1	136.0	135.7	137.0	136.5	138.8	143.0	146.2	144.6	140.3	
DBA	122.4	121.3	120.3	121.4	121.7	121.4	121.5	123.1	126.0	130.2	134.1	132.3	128.3	

NASA DUAL FLOW SHOCK CELL/CDAN, C-D, C-D/DFSC-3/WAS3-23166

VEHICL = ADH276 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS >NL = RPM XNH = RPM V8 = 1704.5 FPS AER = 4.0 SO IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2600.0 FPS AE18 = 18.0 SO IN

RUNPT = 82F-ZER-0329 TAPE = X0329C TEST PT NO = 0329 NC = AE061 CORR FAN SPEED = RPM

ORIGINAL PAGE 19  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0329 X0329F

ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	85.8	85.3	85.8	86.6	87.2	85.6	86.7	87.6	88.3	92.9	95.5	95.0	96.4	132.2
63	89.4	92.5	91.0	93.3	93.9	92.2	93.6	92.5	92.7	103.5	99.7	98.1	100.3	138.4
80	91.9	96.0	91.7	94.3	93.9	95.2	96.9	95.0	96.2	95.1	97.4	100.4	102.8	138.3
100	92.0	98.8	93.5	96.6	96.9	96.5	98.2	99.6	97.5	98.8	101.5	104.9	107.6	141.6
125	88.7	91.9	94.0	96.4	97.3	97.2	97.8	98.7	98.2	100.5	106.9	109.6	111.3	144.2
160	88.9	88.0	91.7	93.1	92.9	93.0	100.1	96.0	97.2	101.8	107.9	111.6	114.5	145.9
200	90.6	91.1	91.1	93.9	95.3	96.4	99.3	98.7	102.6	103.7	109.6	113.8	116.7	147.9
250	89.8	94.1	94.1	95.9	95.5	95.6	99.7	101.4	103.3	108.9	115.3	117.7	118.1	151.2
315	91.4	93.2	93.2	95.4	96.8	98.2	102.8	101.5	105.4	112.0	117.4	120.1	119.5	153.3
400	91.7	94.8	95.3	96.7	97.4	97.5	109.7	102.8	107.0	115.4	120.0	120.9	119.3	154.9
500	93.7	95.0	96.1	98.0	98.2	99.0	101.9	103.6	109.1	117.1	122.5	122.2	119.1	156.4
630	94.4	96.2	97.2	98.6	99.1	100.5	102.1	105.3	110.2	118.8	123.4	122.6	120.0	157.3
800	98.7	98.7	99.0	100.5	100.6	101.5	103.6	107.3	112.0	119.3	124.4	122.4	119.8	157.9
1000	119.4	116.7	108.7	109.1	106.1	105.2	106.6	108.3	113.2	120.1	127.7	128.1	123.0	161.9
1250	112.5	112.0	109.1	108.7	106.7	105.6	106.7	108.9	114.1	118.9	124.5	122.7	118.5	158.4
1600	111.8	112.2	112.8	113.3	109.7	106.8	107.4	109.5	114.8	118.2	124.0	120.2	116.5	158.0
2000	111.0	109.7	111.8	114.2	116.0	113.9	108.4	110.2	114.6	118.4	123.1	118.7	114.0	157.9
2500	108.7	109.0	109.6	110.6	112.9	114.3	111.2	111.8	115.7	120.3	121.3	117.6	112.8	157.4
3150	107.4	108.2	109.2	109.7	109.3	111.4	114.5	112.7	115.3	119.9	120.1	115.5	111.1	156.7
4000	105.5	106.0	107.8	109.2	109.7	108.9	111.8	114.1	115.5	118.9	118.4	113.7	109.0	155.7
5000	104.3	105.8	106.9	108.1	108.9	109.3	110.2	114.5	116.3	117.6	118.4	113.2	108.0	155.5
6300	102.5	104.3	105.9	107.1	108.5	108.5	110.3	113.5	115.0	116.1	116.9	111.4	106.7	154.5
8000	100.9	103.4	104.5	106.4	106.7	108.0	109.4	112.7	115.7	114.8	114.8	109.3	104.7	153.5
10000	99.1	102.1	103.6	105.6	105.9	107.4	108.6	111.5	112.7	114.3	113.5	108.7	103.5	153.2
12500	97.5	99.4	102.0	104.2	104.5	106.3	106.5	109.5	110.8	112.0	111.5	107.1	102.3	152.1
16000	94.8	98.5	99.4	102.5	102.6	103.9	104.9	107.5	109.3	109.4	109.6	104.7	100.0	151.5
20000	93.1	95.0	97.2	100.2	100.5	102.0	103.6	104.2	106.6	107.4	108.0	102.7	97.4	151.0
25000	89.9	92.9	95.2	98.5	98.7	100.7	101.9	103.4	105.2	107.6	103.2	100.2	94.2	151.9
31500	83.3	88.8	89.8	93.9	94.2	95.8	96.6	99.2	101.6	104.4	99.7	95.7	87.4	151.1
40000	81.1	86.6	87.9	90.7	92.2	93.6	94.2	97.6	100.4	103.5	98.6	92.9	84.0	153.6
50000	77.9	84.5	84.8	88.1	89.8	92.0	92.0	94.8	99.2	103.1	97.5	91.4	81.6	156.9
63000	75.1	83.9	83.1	84.7	86.8	89.0	88.9	93.7	98.1	103.5	96.4	90.5	77.9	161.6
80000	71.9	83.4	79.9	80.3	82.6	86.3	84.6	90.5	95.6	103.0	93.5	86.2	71.8	167.0
DASPL	122.0	120.9	119.7	121.0	121.2	121.1	121.7	123.3	126.1	130.3	134.4	133.1	130.1	172.1
PNL	131.4	131.5	132.0	133.6	134.4	134.6	135.8	136.5	138.8	143.0	145.1	142.7	139.0	
PNLT	136.0	135.3	133.6	135.1	136.0	135.7	137.0	136.5	138.8	143.0	146.2	144.6	140.3	
DBA	192.9	203.9	200.9	201.6	203.8	207.2	205.9	211.5	216.4	223.5	214.4	207.4	193.7	

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.0

JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH276 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1704.5 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2600.0 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0329 TAPE = X0329F TEST PT NO = 0329 NC = AE061 CORR FAN SPEED = RPM

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0329 X03291

## ANGLES MEASURED FROM INLET, DEGREES

FREQ	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
50	70.3	74.9	76.5	78.6	79.7	80.0	92.0	84.7	88.2	95.5	98.6	97.3	92.4	173.0
63	72.3	75.1	77.2	79.9	80.5	81.5	84.2	85.5	90.2	97.2	101.1	98.5	92.1	174.4
80	72.9	76.3	78.4	80.5	81.4	82.9	84.4	87.1	91.4	98.9	101.9	98.9	92.9	175.3
100	77.1	78.7	80.1	82.3	82.8	83.8	85.8	89.1	93.1	99.3	102.9	98.6	92.5	175.9
125	97.7	96.6	89.7	90.9	88.3	87.5	88.8	90.0	94.2	100.0	106.0	104.1	95.5	180.0
160	90.6	91.8	89.9	90.3	88.7	87.7	88.7	90.5	94.9	98.6	102.6	98.5	90.6	176.4
200	89.7	91.7	93.5	94.8	91.6	88.8	89.3	90.9	95.5	97.7	101.9	95.7	88.1	176.0
250	88.6	88.9	92.3	95.5	97.7	95.7	90.1	91.4	95.0	97.6	100.7	93.7	85.0	176.0
315	85.9	87.9	89.7	91.6	94.3	95.9	92.6	92.8	95.9	99.2	98.4	92.1	83.1	175.4
400	84.0	86.7	89.0	90.4	90.4	92.6	95.6	93.3	95.1	98.4	96.8	89.4	80.3	174.7
500	81.7	84.1	87.3	89.5	90.5	89.9	92.6	94.4	94.9	97.1	94.6	86.9	77.2	173.8
630	80.0	83.5	86.0	88.1	89.4	90.0	90.8	94.6	95.4	95.3	94.1	85.7	75.2	173.6
800	77.6	81.6	84.7	86.9	88.9	89.0	90.6	93.2	93.8	93.4	92.1	83.2	72.7	172.6
1000	75.6	80.5	83.1	86.1	86.8	88.3	89.6	92.1	92.3	91.8	89.5	80.4	69.6	171.6
1250	73.4	78.8	82.0	85.1	85.9	87.6	88.6	90.7	91.1	91.0	87.7	79.1	67.0	171.2
1600	70.9	75.5	79.9	83.3	84.3	86.2	86.3	88.6	88.8	88.1	84.8	76.0	63.4	170.2
2000	67.2	74.0	77.0	81.3	82.2	83.7	84.5	86.4	86.9	84.9	82.0	72.0	58.0	169.5
2500	63.7	69.3	73.8	78.4	79.5	81.3	82.6	82.4	83.2	81.7	78.6	67.3	50.5	169.1
3150	57.1	64.7	70.0	75.1	76.3	78.7	79.6	80.1	80.0	79.4	70.4	59.8	39.0	169.9
4000	44.3	55.9	60.8	67.3	68.9	70.9	71.3	72.5	72.5	71.5	60.7	46.3	17.7	169.1
5000	32.3	46.2	52.6	58.6	61.9	63.8	63.9	65.5	65.2	63.0	49.8	29.8		171.7
6300	11.3	29.8	37.5	45.3	49.4	52.4	51.6	51.9	51.9	48.5	31.0	4.2		174.9
8000		4.4	14.5	22.6	28.3	31.6	30.4	31.6	29.4	24.0				179.6
10000						2.5								185.1
12500														
16000														
20000														
25000														
31500														
40000														
50000														
63000														
80000														

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DASPL 99.9 100.2 99.8 101.8 102.4 102.3 102.6 103.6 105.8 109.2 112.1 108.5 101.2 190.0  
 PNL 102.0 103.5 104.8 107.6 108.8 109.0 109.8 110.4 111.8 114.0 114.4 109.7 100.9  
 PNLT 104.4 105.3 105.6 108.3 109.6 109.6 109.8 110.4 112.3 114.5 115.0 110.7 102.0  
 DBA 89.1 91.4 93.7 96.1 97.3 98.0 98.8 100.5 101.4 102.3 101.7 95.2 86.4

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CDAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH276 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1704.5 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2600.0 FPS AEB = 18.0 SQ IN  
 RUNPT = 82F-ZER-0329 TAPE = X03291 TEST PT NO = 0329 NC = AEOG1 CORR FAN SPEED = RPM

275



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0330 X0330C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

	40.	50.	60.	70.	80.	90.	100.	110.	120.	130.	140.	150.	160.	PWL
FREQ														
50	90.8	90.8	87.1	86.6	85.7	86.1	87.0	87.6	89.1	95.4	96.8	96.5	99.1	133.9
63	93.7	95.5	92.7	91.3	92.4	92.5	93.9	92.0	93.5	103.8	100.4	99.1	100.0	138.9
80	91.9	96.7	92.0	95.0	94.1	95.0	95.9	95.0	96.0	94.8	97.9	99.4	103.3	138.3
100	92.0	98.0	93.0	95.3	96.2	95.5	96.9	98.6	98.5	97.1	100.2	104.7	108.1	141.0
125	89.2	92.9	93.7	95.9	96.6	96.2	96.8	97.7	96.5	98.0	104.4	108.8	111.0	143.2
160	87.7	85.7	90.5	91.1	91.1	91.0	96.9	93.3	94.5	99.0	106.2	109.1	113.0	143.9
200	89.1	91.6	88.1	89.7	91.0	92.9	95.5	95.9	99.4	100.0	106.3	111.0	114.7	145.4
250	85.8	91.6	88.8	91.4	91.0	92.6	95.7	98.1	99.6	104.7	111.5	115.0	116.1	148.3
315	87.6	89.7	89.4	91.6	92.3	93.9	98.6	97.7	101.4	108.5	114.1	117.6	117.2	150.5
400	87.5	90.0	90.3	91.7	92.7	93.0	104.9	98.6	102.8	110.4	116.7	118.9	116.1	151.8
500	88.5	90.0	91.1	93.3	93.7	94.8	97.2	99.6	104.3	113.1	119.5	119.2	114.1	153.0
630	89.4	91.2	92.7	94.1	94.6	95.7	97.4	100.5	105.0	115.5	120.4	118.9	111.8	153.7
800	94.2	94.7	97.5	96.7	97.9	96.7	99.1	102.8	107.2	116.1	121.7	117.9	109.0	154.3
1000	105.4	102.2	100.7	99.6	98.9	98.7	100.6	103.5	108.7	116.3	121.4	117.1	107.5	154.2
1250	111.0	111.8	108.1	105.7	102.2	101.3	102.7	104.9	110.1	115.9	121.5	115.7	106.7	154.7
1600	110.0	111.9	113.8	113.6	110.2	104.8	104.2	106.0	111.3	114.9	121.3	114.7	106.5	155.4
2000	107.0	108.2	111.3	113.5	114.3	111.2	106.6	107.2	111.3	116.1	120.9	113.7	108.0	155.6
2500	106.0	106.5	106.6	109.1	111.7	113.6	111.5	109.6	112.5	117.8	120.0	112.8	105.4	155.4
3150	105.1	106.4	107.4	107.7	106.8	109.6	113.5	111.2	113.0	117.4	118.9	111.1	104.6	154.7
4000	102.8	103.7	105.3	107.9	108.7	107.7	109.6	113.6	114.0	116.9	116.9	109.7	102.5	154.1
5000	102.3	103.6	105.4	106.6	106.8	108.3	108.7	112.5	115.5	116.4	116.5	108.5	102.3	153.9
6300	101.3	102.8	104.1	105.4	106.8	107.0	108.8	112.2	114.5	114.6	114.4	107.5	100.7	153.0
8000	98.9	101.3	102.8	104.5	105.0	106.3	107.7	111.6	114.0	114.1	112.9	105.1	100.0	152.5
10000	97.5	100.4	101.9	104.0	104.5	106.7	107.2	109.9	112.8	113.2	111.6	105.1	98.4	152.0
12500	95.7	97.3	100.1	102.6	101.9	104.7	105.2	108.4	111.0	110.2	109.6	102.9	96.7	150.8
16000	92.8	95.8	97.2	100.2	101.1	102.1	103.2	106.5	108.8	108.2	107.6	100.6	94.4	150.1
20000	90.7	92.9	94.8	97.8	98.3	99.8	101.4	103.3	105.9	105.8	105.3	98.3	92.4	149.2
25000	87.0	90.1	92.6	95.2	96.1	98.4	100.3	101.9	105.1	104.1	101.6	96.6	89.4	149.9
31500	80.8	85.1	87.7	90.8	90.5	93.6	94.6	97.2	100.7	100.8	97.6	91.2	83.0	148.7
40000	77.4	83.1	84.6	87.6	87.9	90.5	91.8	95.0	99.6	100.3	96.6	87.8	79.9	151.2
50000	73.7	81.7	81.0	84.0	85.1	88.1	88.3	92.4	96.9	99.2	94.5	84.5	75.9	153.5
63000	71.3	80.9	79.1	81.1	81.0	83.7	83.9	90.4	95.6	98.3	93.1	80.2	70.9	157.3
80000	68.2	80.2	75.5	77.1	77.7	79.6	78.5	86.9	92.0	95.9	89.4	74.3	62.9	161.1
OASPL	116.7	117.8	118.6	119.6	119.5	119.4	120.0	121.6	124.2	127.7	131.3	128.0	124.6	168.3
PWL	128.1	129.6	130.7	132.1	132.5	133.1	134.1	135.0	137.0	140.5	143.1	137.9	132.7	
PNLT	130.1	130.6	132.1	133.4	133.6	134.1	135.3	135.0	137.0	140.5	143.1	137.9	132.7	
DBA	117.3	118.4	119.3	120.1	120.1	119.7	119.9	121.3	123.9	127.6	131.1	126.2	120.0	

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NASA DUAL FLOW SHOCK CELL/COAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH282 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1701.1 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2597.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0330 TAPE = X0330C TEST PT NO = 0330 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0330 X0330F

ANGLES MEASURED FROM INLET, DEGREES

40. 50. 60. 70. 80. 90. 100. 110. 120. 130. 140. 150. 160. PWL

|       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREE  | 50    | 63    | 80    | 100   | 125   | 160   | 200   | 250   |
| 315   | 92.1  | 96.9  | 93.0  | 94.2  | 92.3  | 92.6  | 93.8  | 94.5  |
| 315   | 92.1  | 96.9  | 93.0  | 94.2  | 92.3  | 92.6  | 93.8  | 94.5  |
| 400   | 95.3  | 96.0  | 94.4  | 95.0  | 93.3  | 93.6  | 95.8  | 96.4  |
| 500   | 94.8  | 96.2  | 95.1  | 95.6  | 95.1  | 96.4  | 96.7  | 97.1  |
| 630   | 96.2  | 96.4  | 96.0  | 96.8  | 96.1  | 96.7  | 97.3  | 97.6  |
| 800   | 97.1  | 97.6  | 97.7  | 97.6  | 97.3  | 98.4  | 98.4  | 98.4  |
| 1000  | 100.2 | 100.0 | 101.8 | 99.8  | 100.6 | 100.1 | 102.0 | 102.0 |
| 1250  | 112.9 | 108.4 | 105.5 | 102.9 | 104.2 | 102.1 | 102.2 | 103.3 |
| 1500  | 118.5 | 118.1 | 113.0 | 109.2 | 112.8 | 105.9 | 104.0 | 106.4 |
| 2000  | 120.0 | 120.2 | 117.0 | 117.9 | 112.5 | 106.6 | 106.1 | 112.5 |
| 2500  | 114.7 | 114.7 | 116.7 | 117.5 | 114.6 | 115.2 | 108.7 | 113.5 |
| 3150  | 113.6 | 113.1 | 112.0 | 113.3 | 110.0 | 111.6 | 114.2 | 117.9 |
| 4000  | 112.3 | 112.8 | 112.9 | 112.4 | 110.2 | 110.7 | 113.6 | 117.3 |
| 5000  | 110.3 | 110.4 | 111.1 | 112.6 | 110.7 | 111.3 | 110.2 | 115.3 |
| 6300  | 109.8 | 110.3 | 111.8 | 111.4 | 110.9 | 110.0 | 112.5 | 115.4 |
| 8000  | 108.6 | 109.4 | 109.8 | 110.1 | 109.0 | 109.3 | 111.9 | 114.2 |
| 10000 | 106.0 | 107.7 | 108.3 | 109.0 | 109.7 | 109.1 | 110.3 | 111.8 |
| 12500 | 104.3 | 106.6 | 107.2 | 108.2 | 106.5 | 107.7 | 109.0 | 111.3 |
| 15000 | 104.8 | 106.6 | 107.4 | 108.4 | 105.1 | 107.0 | 108.9 | 108.4 |
| 20000 | 101.5 | 103.2 | 104.7 | 102.9 | 102.8 | 103.4 | 103.9 | 103.6 |
| 25000 | 98.8  | 99.7  | 100.2 | 101.6 | 101.4 | 102.2 | 104.6 | 104.2 |
| 31500 | 94.4  | 96.2  | 97.3  | 98.2  | 95.1  | 96.6  | 97.5  | 104.4 |
| 40000 | 87.3  | 90.4  | 91.5  | 93.0  | 92.5  | 93.5  | 95.2  | 102.0 |
| 50000 | 83.5  | 87.9  | 88.0  | 89.4  | 89.7  | 91.1  | 90.0  | 92.5  |
| 63000 | 78.9  | 85.6  | 83.5  | 84.9  | 85.6  | 86.7  | 85.4  | 90.5  |
| 80000 | 74.9  | 83.3  | 80.1  | 80.5  | 81.7  | 82.6  | 79.9  | 86.9  |
| OASPL | 124.8 | 124.7 | 124.3 | 123.7 | 122.6 | 121.4 | 120.8 | 121.4 |
| PWL   | 136.9 | 137.0 | 136.8 | 136.4 | 134.8 | 134.3 | 134.1 | 134.0 |
| PMLT  | 138.1 | 138.3 | 138.6 | 137.9 | 136.7 | 135.3 | 135.2 | 134.0 |
| DBA   | 196.2 | 204.1 | 201.3 | 201.9 | 203.0 | 203.9 | 201.6 | 208.0 |
|       | 210.1 | 216.2 | 210.1 | 219.8 | 216.2 | 210.1 | 198.4 | 194.3 |

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS) = 400.00, DIAM (IN) = 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D/C-D/DFSC-3/NAS3-23166

VEHICL = ADH282 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 DEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR  
FNIN1 = LBS XNL RPM XNH RPM XNHR = V8 = 1701.1 FPS AEB = 4.0 SO IN  
FNRAMB = LBS XNL RPM = V18 = 2597.4 FPS AE18 = 18.0 SO IN  
RUNPT = 82F-400-0330 TAPE = X0330F TEST PT NO = 0330 NC = AE061 CORR FAN SPEED = RPM

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## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0330 X03301

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140.  | 150. | 160. | PWL   |
|-------|------|------|-------|------|------|------|------|------|------|------|-------|------|------|-------|
| 50    | 73.9 | 76.2 | 75.5  | 76.9 | 76.8 | 75.7 | 85.9 | 77.8 | 83.5 | 90.6 | 95.2  | 93.9 | 88.8 | 169.3 |
| 63    | 73.4 | 76.3 | 76.3  | 77.0 | 77.9 | 77.6 | 78.7 | 79.7 | 84.9 | 94.1 | 97.6  | 95.7 | 89.8 | 171.3 |
| 80    | 74.7 | 76.5 | 77.2  | 78.6 | 78.8 | 78.5 | 79.0 | 80.8 | 87.3 | 94.9 | 99.4  | 96.2 | 90.0 | 172.5 |
| 100   | 75.5 | 77.6 | 78.8  | 79.4 | 81.9 | 79.6 | 80.7 | 82.8 | 89.3 | 95.7 | 100.0 | 96.8 | 91.0 | 173.3 |
| 125   | 78.6 | 79.9 | 82.8  | 81.6 | 82.8 | 81.7 | 82.3 | 83.7 | 90.5 | 95.1 | 99.9  | 95.2 | 90.0 | 172.9 |
| 160   | 91.0 | 88.2 | 86.4  | 84.5 | 86.2 | 84.3 | 84.3 | 84.9 | 91.9 | 94.2 | 99.7  | 94.3 | 89.7 | 173.3 |
| 200   | 96.4 | 97.7 | 93.7  | 90.6 | 94.6 | 87.9 | 85.8 | 86.1 | 91.8 | 95.4 | 99.2  | 93.1 | 89.0 | 175.2 |
| 250   | 97.5 | 99.4 | 100.6 | 99.2 | 98.6 | 94.3 | 88.3 | 87.3 | 92.9 | 96.9 | 98.2  | 92.0 | 88.1 | 177.4 |
| 315   | 91.8 | 93.6 | 96.8  | 98.4 | 96.0 | 96.7 | 93.2 | 89.6 | 93.6 | 96.6 | 97.1  | 90.1 | 86.9 | 175.9 |
| 400   | 90.3 | 91.6 | 91.8  | 93.9 | 91.1 | 92.9 | 95.3 | 91.4 | 94.6 | 95.9 | 94.6  | 87.9 | 83.5 | 174.3 |
| 500   | 88.5 | 91.0 | 92.3  | 92.4 | 93.2 | 91.2 | 91.6 | 93.9 | 95.8 | 94.9 | 93.5  | 85.8 | 82.0 | 174.2 |
| 630   | 86.0 | 88.2 | 90.2  | 92.7 | 91.2 | 92.1 | 90.7 | 92.6 | 94.7 | 93.0 | 91.3  | 84.4 | 79.8 | 173.2 |
| 800   | 84.9 | 87.6 | 90.1  | 91.2 | 91.2 | 90.5 | 90.9 | 92.3 | 94.2 | 92.4 | 89.4  | 81.6 | 78.2 | 173.0 |
| 1000  | 83.3 | 86.4 | 88.4  | 89.7 | 89.2 | 89.6 | 89.8 | 91.5 | 92.9 | 91.3 | 87.9  | 81.0 | 75.5 | 172.3 |
| 1250  | 80.3 | 84.4 | 86.7  | 88.5 | 88.5 | 89.9 | 89.1 | 89.7 | 91.4 | 88.5 | 86.0  | 78.8 | 73.3 | 171.6 |
| 1600  | 77.7 | 82.7 | 85.1  | 87.3 | 86.3 | 87.6 | 87.0 | 88.1 | 89.2 | 86.4 | 83.5  | 75.5 | 69.1 | 170.9 |
| 2000  | 77.2 | 80.7 | 84.1  | 86.3 | 85.3 | 84.9 | 84.7 | 85.9 | 86.4 | 83.9 | 80.8  | 72.1 | 64.6 | 170.6 |
| 2500  | 72.1 | 77.5 | 79.9  | 82.8 | 82.0 | 82.1 | 82.4 | 82.1 | 85.2 | 81.4 | 75.6  | 67.8 | 56.6 | 170.2 |
| 3150  | 66.0 | 71.6 | 75.0  | 78.3 | 78.3 | 79.4 | 79.9 | 79.0 | 79.4 | 76.1 | 68.5  | 57.5 | 41.4 | 169.7 |
| 4000  | 55.4 | 63.3 | 68.3  | 71.6 | 69.8 | 71.7 | 71.0 | 70.9 | 75.3 | 71.6 | 62.1  | 45.9 | 24.6 | 170.5 |
| 5000  | 38.5 | 50.0 | 56.2  | 60.9 | 62.2 | 63.7 | 63.2 | 63.1 | 66.7 | 63.3 | 50.5  | 29.3 |      | 172.2 |
| 6300  | 16.9 | 33.3 | 40.7  | 46.6 | 49.3 | 51.5 | 49.5 | 49.7 | 54.2 | 49.1 | 32.3  | 1.7  |      | 175.7 |
| 8000  |      | 6.1  | 14.8  | 22.8 | 27.1 | 29.3 | 26.9 | 28.4 | 30.7 | 23.4 |       |      |      | 179.2 |
| 10000 |      |      |       |      |      |      |      |      |      |      |       |      |      | 177.5 |
| 12500 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 16000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 20000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 25000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 31500 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 40000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 50000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 63000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |
| 80000 |      |      |       |      |      |      |      |      |      |      |       |      |      |       |

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DASPL 102.0 103.6 104.3 104.4 103.8 102.5 101.6 101.4 104.4 106.3 108.8 104.4 99.3 187.8  
 PNL 106.5 108.8 110.2 110.6 110.1 109.5 109.0 108.6 111.4 111.6 111.5 105.4 100.5  
 PNLT 107.1 109.4 111.1 111.3 111.0 110.0 109.5 108.6 112.0 112.3 111.5 106.6 100.5  
 DBA 95.1 97.4 99.0 100.0 99.3 99.2 98.7 99.4 101.4 100.4 99.4 92.8 88.4

MODEL AREA = 142.1 SQ CM ( 22.0 IN ) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH282 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = .400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.45 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM VB = 1701.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM VIB = 2597.4 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-400-0330 TAPE = X03301 TEST PT NO = 0330 NC = AE061 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL B2F-ZER-0331 X0331C  
BACKGROUND

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.3  | 83.6  | 80.8  | 81.9  | 82.7  | 81.1  | 84.5  | 85.9  | 86.8  | 93.4  | 94.3  | 94.2  | 94.9  | 130.8 |
| 63    | 90.9  | 90.7  | 86.2  | 87.8  | 90.6  | 89.0  | 91.9  | 90.5  | 91.7  | 103.3 | 98.9  | 97.6  | 99.0  | 137.4 |
| 80    | 88.9  | 92.7  | 89.0  | 91.0  | 90.6  | 92.2  | 93.9  | 92.5  | 93.0  | 92.6  | 94.9  | 97.1  | 99.5  | 135.3 |
| 100   | 89.5  | 95.8  | 91.3  | 94.3  | 94.4  | 93.8  | 95.7  | 96.8  | 95.0  | 96.8  | 99.0  | 102.4 | 105.1 | 139.1 |
| 125   | 85.4  | 89.4  | 92.0  | 94.2  | 94.8  | 94.5  | 95.1  | 95.7  | 95.5  | 97.8  | 103.9 | 106.8 | 108.3 | 141.4 |
| 160   | 86.7  | 84.7  | 89.0  | 89.8  | 90.1  | 90.0  | 96.4  | 93.0  | 94.0  | 98.8  | 104.7 | 107.9 | 110.8 | 142.3 |
| 200   | 87.3  | 87.9  | 88.9  | 90.7  | 91.8  | 92.9  | 96.3  | 95.7  | 99.1  | 101.2 | 106.6 | 110.0 | 112.9 | 144.4 |
| 250   | 87.0  | 91.8  | 91.1  | 92.6  | 92.0  | 92.6  | 96.7  | 98.6  | 100.1 | 106.6 | 112.0 | 114.7 | 115.4 | 148.3 |
| 315   | 88.1  | 90.7  | 89.7  | 92.9  | 94.6  | 94.9  | 99.6  | 98.2  | 102.7 | 109.7 | 114.1 | 116.3 | 116.5 | 150.1 |
| 400   | 88.5  | 91.8  | 92.3  | 93.2  | 94.4  | 93.8  | 107.2 | 99.3  | 103.8 | 112.1 | 116.5 | 117.9 | 116.1 | 151.7 |
| 500   | 90.0  | 91.8  | 93.1  | 94.3  | 94.7  | 95.8  | 98.7  | 100.8 | 105.8 | 114.6 | 118.8 | 118.7 | 116.8 | 153.1 |
| 630   | 90.7  | 93.2  | 94.7  | 95.9  | 96.1  | 97.5  | 98.6  | 101.8 | 106.2 | 116.0 | 119.9 | 119.4 | 118.0 | 154.2 |
| 800   | 93.9  | 94.7  | 96.0  | 97.5  | 97.9  | 98.0  | 100.6 | 104.3 | 108.7 | 116.6 | 120.9 | 119.9 | 117.5 | 154.9 |
| 1000  | 99.9  | 100.5 | 100.2 | 100.6 | 99.9  | 99.5  | 101.6 | 104.8 | 109.5 | 116.1 | 121.7 | 120.6 | 118.3 | 155.5 |
| 1250  | 100.5 | 103.8 | 104.1 | 104.7 | 103.7 | 102.6 | 104.2 | 105.9 | 110.6 | 115.9 | 121.8 | 120.4 | 118.0 | 155.6 |
| 1600  | 104.3 | 101.9 | 102.3 | 102.3 | 102.7 | 102.3 | 104.2 | 107.0 | 111.6 | 115.4 | 122.3 | 119.0 | 115.5 | 155.4 |
| 2000  | 106.3 | 104.2 | 104.8 | 104.0 | 102.0 | 101.9 | 104.6 | 107.0 | 111.6 | 115.6 | 121.6 | 116.2 | 112.7 | 154.6 |
| 2500  | 104.2 | 105.5 | 105.3 | 105.9 | 105.7 | 103.3 | 104.2 | 108.6 | 112.7 | 117.0 | 120.3 | 114.8 | 110.6 | 154.3 |
| 3150  | 102.1 | 103.2 | 103.9 | 105.0 | 105.3 | 106.1 | 106.0 | 108.7 | 111.8 | 117.1 | 118.9 | 113.5 | 109.8 | 153.7 |
| 4000  | 100.3 | 101.2 | 102.6 | 103.7 | 104.7 | 104.9 | 106.5 | 108.9 | 112.0 | 116.4 | 116.2 | 111.7 | 108.2 | 152.5 |
| 5000  | 99.1  | 100.8 | 102.2 | 103.1 | 103.4 | 103.6 | 106.2 | 109.0 | 112.3 | 115.6 | 116.4 | 110.7 | 107.0 | 152.4 |
| 6300  | 97.7  | 99.0  | 100.9 | 101.9 | 103.3 | 103.0 | 106.0 | 109.2 | 111.5 | 114.1 | 114.4 | 109.4 | 105.9 | 151.3 |
| 8000  | 95.4  | 98.2  | 99.5  | 101.4 | 101.7 | 103.5 | 104.7 | 107.7 | 110.5 | 112.8 | 113.3 | 107.8 | 104.2 | 150.5 |
| 10000 | 93.6  | 96.8  | 98.8  | 100.4 | 101.1 | 102.1 | 104.4 | 107.1 | 109.2 | 112.0 | 111.8 | 106.7 | 103.3 | 150.1 |
| 12500 | 91.8  | 93.4  | 96.5  | 99.2  | 99.0  | 101.0 | 102.3 | 105.8 | 107.1 | 109.2 | 110.0 | 105.1 | 101.8 | 148.9 |
| 16000 | 88.8  | 92.5  | 93.4  | 96.7  | 97.4  | 99.1  | 100.9 | 103.5 | 105.8 | 107.7 | 107.9 | 103.2 | 99.5  | 148.4 |
| 20000 | 86.4  | 89.0  | 91.4  | 94.2  | 95.3  | 96.8  | 98.9  | 100.5 | 103.6 | 104.9 | 106.2 | 101.0 | 97.9  | 147.9 |
| 25000 | 83.4  | 86.6  | 88.9  | 92.0  | 92.9  | 94.7  | 97.2  | 98.9  | 101.9 | 103.8 | 101.4 | 98.7  | 93.5  | 148.0 |
| 31500 | 76.3  | 81.5  | 83.3  | 87.2  | 88.0  | 89.8  | 91.6  | 93.7  | 97.3  | 101.6 | 98.2  | 93.9  | 87.2  | 147.4 |
| 40000 | 72.8  | 78.4  | 80.4  | 83.2  | 84.7  | 86.6  | 88.4  | 91.6  | 95.4  | 101.7 | 97.9  | 92.2  | 84.3  | 150.5 |
| 50000 | 69.4  | 75.2  | 76.3  | 79.4  | 81.3  | 83.5  | 85.2  | 88.8  | 95.0  | 100.4 | 96.0  | 89.7  | 81.1  | 153.3 |
| 63000 | 65.1  | 74.1  | 72.6  | 74.9  | 77.1  | 79.5  | 80.9  | 86.4  | 92.8  | 100.5 | 95.1  | 87.7  | 77.4  | 157.9 |
| 80000 | 59.9  | 74.1  | 69.7  | 68.5  | 70.9  | 74.5  | 75.9  | 81.8  | 89.1  | 98.3  | 91.8  | 82.1  | 71.3  | 162.1 |
| DASPL | 112.5 | 113.1 | 113.7 | 114.5 | 114.6 | 114.7 | 117.0 | 119.3 | 122.7 | 127.5 | 131.4 | 129.4 | 127.5 | 168.2 |
| PNL   | 125.4 | 126.5 | 126.9 | 127.7 | 128.0 | 128.3 | 129.9 | 132.1 | 135.4 | 140.3 | 143.2 | 139.7 | 137.1 |       |
| PNLT  | 125.4 | 127.3 | 126.9 | 128.8 | 128.0 | 128.3 | 131.3 | 132.1 | 135.4 | 140.3 | 143.2 | 139.7 | 137.1 |       |
| DBA   | 113.1 | 113.4 | 114.0 | 114.6 | 114.6 | 114.4 | 116.3 | 119.0 | 122.6 | 127.4 | 131.3 | 128.6 | 126.0 |       |

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NASA DUAL FLOW SHOCK CELL/CDAN. C-D, C-D/DFSC-3/NAS3-23166

VEHICL = ADH272 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = 10 PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1692.6 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2396.0 FPS AE18 = 18.0 SQ IN

RUNPT = B2F-ZER-0331 TAPE = X0331C TEST PT NO = 0331 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0331 X0331F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.3  | 83.6  | 80.8  | 81.9  | 82.7  | 81.1  | 84.5  | 85.9  | 86.8  | 93.4  | 94.3  | 94.2  | 94.9  | 130.8 |
| 63    | 90.9  | 90.7  | 86.2  | 87.8  | 90.6  | 89.0  | 91.9  | 90.5  | 91.7  | 103.3 | 98.9  | 97.6  | 99.0  | 137.4 |
| 80    | 88.9  | 92.7  | 89.0  | 91.0  | 90.6  | 92.2  | 93.9  | 92.5  | 93.0  | 92.6  | 94.9  | 97.1  | 99.5  | 135.3 |
| 100   | 89.5  | 95.8  | 91.3  | 94.3  | 94.4  | 93.8  | 95.7  | 96.8  | 95.0  | 96.8  | 99.0  | 102.4 | 105.1 | 139.1 |
| 125   | 85.4  | 89.4  | 92.0  | 94.2  | 94.8  | 94.5  | 95.1  | 95.7  | 95.5  | 97.8  | 103.9 | 106.8 | 108.3 | 141.4 |
| 160   | 86.7  | 84.7  | 89.0  | 89.8  | 90.1  | 90.0  | 96.4  | 93.0  | 94.0  | 98.8  | 104.7 | 107.9 | 110.8 | 142.3 |
| 200   | 87.3  | 87.9  | 88.9  | 90.7  | 91.8  | 92.9  | 96.3  | 95.7  | 99.1  | 101.2 | 106.6 | 110.0 | 112.9 | 144.4 |
| 250   | 87.0  | 91.8  | 91.1  | 92.6  | 92.0  | 92.6  | 96.7  | 98.6  | 100.1 | 106.6 | 112.0 | 114.7 | 115.4 | 148.3 |
| 315   | 88.1  | 90.7  | 89.7  | 92.9  | 94.6  | 94.9  | 99.6  | 98.2  | 102.7 | 109.7 | 114.1 | 116.3 | 116.5 | 150.1 |
| 400   | 88.5  | 91.8  | 92.3  | 93.2  | 94.4  | 93.8  | 107.2 | 99.3  | 103.8 | 112.1 | 116.5 | 117.9 | 116.1 | 151.7 |
| 500   | 90.0  | 91.8  | 93.1  | 94.3  | 94.7  | 95.8  | 98.7  | 100.8 | 105.8 | 114.6 | 118.8 | 118.7 | 116.8 | 153.1 |
| 630   | 90.7  | 93.2  | 94.7  | 95.9  | 96.1  | 97.5  | 98.6  | 101.8 | 106.2 | 116.0 | 119.9 | 119.4 | 118.0 | 154.2 |
| 800   | 93.9  | 94.7  | 96.0  | 97.5  | 97.9  | 98.0  | 100.6 | 104.3 | 108.7 | 116.6 | 120.9 | 119.9 | 117.5 | 154.9 |
| 1000  | 99.9  | 100.5 | 100.2 | 100.6 | 99.9  | 99.5  | 101.6 | 104.8 | 109.5 | 116.1 | 121.7 | 120.6 | 118.3 | 155.5 |
| 1250  | 100.5 | 103.8 | 104.1 | 104.7 | 103.7 | 102.6 | 104.2 | 105.9 | 110.6 | 115.9 | 121.8 | 120.4 | 118.0 | 155.6 |
| 1600  | 104.3 | 101.9 | 102.3 | 102.3 | 102.7 | 102.3 | 104.2 | 107.0 | 111.6 | 115.4 | 122.3 | 119.0 | 115.5 | 155.4 |
| 2000  | 106.3 | 104.2 | 104.8 | 104.0 | 102.0 | 101.9 | 104.6 | 107.0 | 111.6 | 115.6 | 121.6 | 116.2 | 112.7 | 154.6 |
| 2500  | 104.2 | 105.5 | 105.3 | 105.9 | 105.7 | 103.3 | 104.2 | 108.6 | 112.7 | 117.0 | 120.3 | 114.8 | 110.6 | 154.3 |
| 3150  | 102.1 | 103.2 | 103.9 | 105.0 | 105.3 | 106.1 | 106.0 | 108.7 | 111.8 | 117.1 | 118.9 | 113.5 | 109.8 | 153.7 |
| 4000  | 100.3 | 101.2 | 102.6 | 103.7 | 104.7 | 104.9 | 106.5 | 108.9 | 112.0 | 116.4 | 116.2 | 111.7 | 108.2 | 152.5 |
| 5000  | 99.1  | 100.8 | 102.2 | 103.1 | 103.4 | 103.6 | 106.2 | 109.0 | 112.3 | 115.6 | 116.4 | 110.7 | 107.0 | 152.4 |
| 6300  | 97.7  | 99.0  | 100.9 | 101.9 | 103.3 | 103.0 | 106.0 | 109.2 | 111.5 | 114.1 | 114.4 | 109.4 | 105.9 | 151.3 |
| 8000  | 95.4  | 98.2  | 99.5  | 101.4 | 101.7 | 103.5 | 104.7 | 107.7 | 110.5 | 112.8 | 113.3 | 107.8 | 104.2 | 150.5 |
| 10000 | 93.6  | 96.8  | 98.8  | 100.4 | 101.1 | 102.1 | 104.4 | 107.1 | 109.2 | 112.0 | 111.8 | 106.7 | 103.3 | 150.1 |
| 12500 | 91.8  | 93.4  | 96.5  | 99.2  | 99.0  | 101.0 | 102.3 | 105.8 | 107.1 | 109.2 | 110.0 | 105.1 | 101.8 | 148.9 |
| 16000 | 88.8  | 92.5  | 93.4  | 96.7  | 97.4  | 99.1  | 100.9 | 103.5 | 105.8 | 107.7 | 107.9 | 103.2 | 99.5  | 148.4 |
| 20000 | 86.4  | 89.0  | 91.4  | 94.2  | 95.3  | 96.8  | 98.9  | 100.5 | 103.6 | 104.9 | 106.2 | 101.0 | 97.9  | 147.9 |
| 25000 | 83.4  | 86.6  | 88.9  | 92.0  | 92.9  | 94.7  | 97.2  | 98.9  | 101.9 | 103.8 | 101.4 | 98.7  | 93.5  | 148.0 |
| 31500 | 76.3  | 81.5  | 83.3  | 87.2  | 88.0  | 89.8  | 91.6  | 93.7  | 97.3  | 101.6 | 98.2  | 93.9  | 87.2  | 147.4 |
| 40000 | 72.8  | 78.4  | 80.4  | 83.2  | 84.7  | 86.6  | 88.4  | 91.6  | 95.4  | 101.7 | 97.9  | 92.2  | 84.3  | 150.5 |
| 50000 | 69.4  | 75.2  | 76.3  | 79.4  | 81.3  | 83.5  | 85.2  | 88.8  | 95.0  | 100.4 | 96.0  | 89.7  | 81.1  | 153.3 |
| 63000 | 65.1  | 74.1  | 72.6  | 74.9  | 77.1  | 79.5  | 80.9  | 86.4  | 92.8  | 100.5 | 95.1  | 87.7  | 77.4  | 157.9 |
| 80000 | 59.9  | 74.1  | 69.7  | 68.5  | 70.9  | 74.5  | 75.9  | 81.8  | 89.1  | 98.3  | 91.8  | 82.7  | 71.3  | 162.1 |
| OASPL | 112.5 | 113.1 | 113.7 | 114.5 | 114.6 | 114.7 | 117.0 | 119.3 | 122.7 | 127.5 | 131.4 | 129.4 | 127.5 | 168.2 |
| PNL   | 125.4 | 126.5 | 126.9 | 127.7 | 128.0 | 128.3 | 129.9 | 132.1 | 135.4 | 140.3 | 143.2 | 139.7 | 137.1 |       |
| PNLT  | 125.4 | 127.3 | 126.9 | 128.8 | 128.0 | 128.3 | 131.3 | 132.1 | 135.4 | 140.3 | 143.2 | 139.7 | 137.1 |       |
| DBA   | 181.5 | 194.6 | 190.7 | 190.6 | 192.8 | 196.0 | 197.4 | 203.1 | 210.2 | 219.0 | 212.7 | 204.1 | 193.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH272 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PC1  
 WIND DIR = DEGR WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VB = 1692.6 FPS AE8 = 4.0 SO IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2396.0 FPS AE18 = 18.0 SO IN

RUNPT = 82F-ZER-0331 TAPE = X0331F TEST PT NO = 0331 NC = AEO61 CORR FAN SPEED = RPM

## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 58 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0331 X03311

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 67.1 | 71.9 | 73.5 | 75.1  | 76.7  | 76.2  | 89.5  | 81.2  | 85.0  | 92.2  | 95.1  | 94.3  | 89.1 | 169.8 |
| 63    | 68.6 | 71.9 | 74.2 | 76.2  | 77.0  | 78.2  | 81.0  | 82.7  | 87.0  | 94.7  | 97.3  | 95.0  | 89.8 | 171.1 |
| 80    | 69.2 | 73.3 | 75.9 | 77.7  | 78.4  | 79.9  | 80.9  | 83.6  | 87.4  | 96.1  | 98.4  | 95.6  | 90.9 | 172.2 |
| 100   | 72.4 | 74.7 | 77.1 | 79.3  | 80.1  | 80.3  | 82.8  | 86.1  | 89.8  | 96.6  | 99.4  | 96.1  | 90.3 | 172.9 |
| 125   | 78.2 | 80.4 | 81.2 | 82.4  | 82.0  | 81.8  | 83.8  | 86.5  | 90.5  | 96.0  | 100.0 | 96.6  | 90.8 | 173.5 |
| 160   | 78.6 | 83.5 | 84.9 | 86.3  | 85.7  | 84.7  | 86.2  | 87.5  | 91.4  | 95.6  | 99.9  | 96.2  | 90.1 | 173.7 |
| 200   | 82.2 | 81.5 | 83.0 | 83.8  | 84.6  | 84.3  | 86.0  | 88.4  | 92.3  | 95.0  | 100.2 | 94.4  | 87.1 | 173.4 |
| 250   | 83.8 | 83.4 | 85.3 | 85.2  | 83.7  | 83.7  | 86.3  | 88.2  | 92.0  | 94.9  | 99.2  | 91.2  | 83.7 | 172.7 |
| 315   | 81.4 | 84.4 | 85.5 | 86.8  | 87.1  | 84.9  | 85.6  | 89.6  | 92.9  | 95.9  | 97.4  | 89.3  | 80.8 | 172.4 |
| 400   | 78.7 | 81.7 | 83.7 | 85.6  | 86.4  | 87.4  | 87.1  | 89.3  | 91.6  | 95.6  | 95.5  | 87.4  | 79.0 | 171.7 |
| 500   | 76.5 | 79.3 | 82.0 | 84.0  | 85.5  | 85.9  | 87.4  | 89.2  | 91.4  | 94.6  | 92.3  | 84.9  | 76.5 | 170.6 |
| 630   | 74.7 | 78.5 | 81.3 | 83.1  | 83.9  | 84.3  | 86.8  | 89.1  | 91.4  | 93.3  | 92.1  | 83.2  | 74.2 | 170.4 |
| 800   | 72.9 | 76.4 | 79.7 | 81.7  | 83.6  | 83.5  | 86.4  | 89.0  | 90.3  | 91.4  | 89.6  | 81.2  | 72.0 | 169.4 |
| 1000  | 70.1 | 75.2 | 78.1 | 81.1  | 81.8  | 83.8  | 84.8  | 87.4  | 89.1  | 89.8  | 88.0  | 78.9  | 69.1 | 168.6 |
| 1250  | 67.9 | 73.5 | 77.2 | 79.8  | 81.1  | 82.3  | 84.4  | 86.5  | 87.6  | 88.8  | 86.0  | 77.1  | 66.7 | 168.1 |
| 1600  | 65.1 | 69.5 | 74.4 | 78.3  | 78.8  | 81.0  | 82.1  | 84.8  | 85.0  | 85.4  | 83.3  | 74.0  | 62.9 | 166.9 |
| 2000  | 61.2 | 68.0 | 71.0 | 75.5  | 77.0  | 78.9  | 80.5  | 82.4  | 83.4  | 83.2  | 80.2  | 70.5  | 57.5 | 166.5 |
| 2500  | 57.0 | 63.3 | 68.1 | 72.4  | 74.3  | 76.1  | 77.9  | 78.7  | 80.2  | 79.2  | 76.8  | 65.5  | 51.0 | 165.9 |
| 3150  | 50.6 | 58.5 | 63.7 | 68.6  | 70.6  | 72.7  | 74.8  | 75.6  | 76.7  | 75.7  | 68.7  | 58.3  | 38.2 | 166.0 |
| 4000  | 37.3 | 48.7 | 54.3 | 60.6  | 62.7  | 64.9  | 66.3  | 67.0  | 68.3  | 68.7  | 59.2  | 44.6  | 17.5 | 165.4 |
| 5000  | 24.0 | 38.0 | 45.1 | 51.1  | 54.4  | 56.8  | 58.1  | 59.5  | 60.2  | 61.3  | 49.1  | 29.1  |      | 168.5 |
| 6300  | 2.8  | 20.6 | 29.0 | 36.5  | 40.9  | 43.9  | 44.8  | 45.9  | 47.7  | 45.7  | 29.5  | 2.5   |      | 171.4 |
| 8000  |      |      | 4.0  | 12.8  | 18.5  | 22.1  | 22.4  | 24.3  | 24.2  | 21.0  |       |       |      | 176.0 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |      | 180.1 |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| OASPL | 89.6 | 91.7 | 93.5 | 95.0  | 95.5  | 95.7  | 97.9  | 99.6  | 102.4 | 106.4 | 108.9 | 104.6 | 98.7 | 186.1 |
| PNL   | 93.8 | 96.6 | 98.8 | 101.0 | 101.8 | 102.7 | 104.3 | 106.3 | 108.3 | 111.3 | 111.9 | 105.6 | 98.2 |       |
| PNLT  | 93.8 | 96.6 | 98.8 | 101.5 | 101.8 | 102.7 | 104.8 | 106.3 | 108.9 | 111.8 | 113.0 | 106.8 | 98.2 |       |
| DBA   | 82.7 | 85.7 | 88.2 | 90.4  | 91.4  | 92.2  | 93.8  | 96.1  | 97.9  | 99.9  | 99.8  | 92.5  | 84.7 |       |

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADM272 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM VB = 1692.6 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2396.0 FPS AF18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-0331 TAPE = X03311 TEST PT NO = 0331 NC = AE061 CORR FAN SPEED = RPM

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OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1319 X1319C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 82.5  | 80.8  | 79.1  | 79.4  | 81.2  | 78.8  | 79.5  | 80.9  | 82.1  | 95.7  | 88.0  | 93.7  | 94.4  | 129.9 |
| 63    | 89.4  | 89.2  | 86.0  | 85.1  | 88.4  | 85.7  | 87.1  | 86.5  | 87.7  | 103.5 | 90.2  | 97.9  | 99.0  | 136.4 |
| 80    | 86.4  | 90.5  | 86.5  | 88.5  | 87.9  | 88.7  | 90.4  | 89.3  | 90.5  | 92.1  | 91.7  | 94.4  | 96.5  | 132.5 |
| 100   | 86.5  | 91.5  | 87.8  | 90.3  | 90.2  | 89.8  | 90.9  | 93.1  | 91.5  | 93.6  | 95.2  | 98.9  | 101.6 | 135.3 |
| 125   | 85.2  | 87.9  | 89.7  | 91.7  | 91.6  | 91.5  | 92.3  | 92.2  | 91.7  | 95.0  | 99.2  | 103.8 | 106.0 | 138.3 |
| 160   | 85.4  | 81.7  | 87.7  | 87.8  | 88.6  | 88.5  | 93.1  | 89.8  | 90.2  | 94.8  | 100.4 | 104.4 | 108.3 | 139.2 |
| 200   | 85.3  | 87.6  | 87.4  | 88.9  | 89.0  | 89.9  | 93.3  | 93.9  | 95.4  | 97.2  | 101.3 | 107.0 | 110.4 | 141.3 |
| 250   | 84.5  | 91.6  | 88.6  | 89.4  | 88.7  | 91.3  | 95.0  | 95.4  | 96.1  | 101.4 | 107.3 | 111.5 | 113.1 | 145.0 |
| 315   | 86.6  | 89.7  | 88.7  | 92.4  | 92.8  | 92.7  | 97.6  | 96.5  | 98.4  | 103.5 | 108.6 | 113.6 | 115.2 | 146.9 |
| 400   | 86.5  | 90.3  | 90.8  | 91.5  | 92.2  | 92.5  | 105.2 | 97.3  | 99.3  | 107.4 | 112.0 | 115.9 | 116.1 | 149.2 |
| 500   | 88.7  | 90.5  | 91.1  | 92.8  | 92.7  | 93.5  | 96.4  | 97.8  | 100.8 | 108.9 | 114.3 | 116.9 | 116.8 | 150.2 |
| 630   | 89.2  | 91.7  | 93.2  | 94.1  | 94.4  | 95.0  | 96.1  | 98.8  | 101.0 | 110.5 | 115.7 | 118.6 | 117.3 | 151.5 |
| 800   | 92.4  | 93.0  | 94.5  | 96.5  | 96.6  | 95.7  | 97.9  | 100.8 | 103.0 | 110.8 | 116.7 | 118.6 | 117.8 | 152.0 |
| 1000  | 98.9  | 100.5 | 102.0 | 102.1 | 99.9  | 98.0  | 98.6  | 101.3 | 104.0 | 111.1 | 116.4 | 119.4 | 119.0 | 152.7 |
| 1250  | 97.8  | 99.8  | 100.8 | 103.7 | 104.4 | 104.6 | 104.7 | 103.1 | 104.3 | 110.9 | 116.0 | 119.4 | 119.2 | 153.0 |
| 1600  | 100.0 | 98.9  | 98.8  | 99.8  | 99.7  | 100.5 | 102.9 | 103.7 | 105.8 | 110.2 | 115.5 | 119.7 | 119.2 | 152.8 |
| 2000  | 103.8 | 102.7 | 102.1 | 101.7 | 100.0 | 98.9  | 101.4 | 103.0 | 105.6 | 109.9 | 113.9 | 118.7 | 116.7 | 151.6 |
| 2500  | 102.5 | 102.5 | 103.1 | 102.9 | 102.2 | 100.3 | 101.2 | 103.8 | 105.7 | 111.0 | 113.8 | 117.3 | 114.6 | 151.0 |
| 3150  | 102.1 | 102.9 | 103.2 | 103.2 | 102.0 | 100.9 | 102.5 | 103.2 | 105.0 | 109.6 | 112.9 | 115.3 | 112.6 | 149.8 |
| 4000  | 99.5  | 100.0 | 101.6 | 102.4 | 101.7 | 101.7 | 101.3 | 103.6 | 106.0 | 108.4 | 111.4 | 113.2 | 111.0 | 148.6 |
| 5000  | 98.8  | 99.8  | 100.9 | 101.3 | 101.1 | 101.3 | 102.5 | 103.3 | 106.0 | 107.6 | 111.4 | 112.5 | 109.5 | 148.3 |
| 6300  | 97.0  | 98.5  | 99.4  | 100.6 | 101.3 | 100.0 | 101.8 | 103.2 | 105.0 | 106.3 | 109.1 | 110.4 | 107.4 | 147.0 |
| 8000  | 94.9  | 96.9  | 98.5  | 99.9  | 100.2 | 99.7  | 100.9 | 102.5 | 104.2 | 105.3 | 107.3 | 108.1 | 105.4 | 145.9 |
| 10000 | 93.6  | 96.1  | 97.6  | 99.4  | 99.4  | 99.9  | 100.4 | 102.1 | 103.4 | 104.5 | 106.0 | 107.2 | 104.3 | 145.7 |
| 12500 | 91.5  | 93.7  | 96.7  | 98.2  | 97.5  | 98.3  | 99.1  | 100.3 | 102.1 | 100.7 | 103.7 | 105.6 | 102.3 | 144.6 |
| 16000 | 88.8  | 92.3  | 93.7  | 96.2  | 96.6  | 96.6  | 97.4  | 98.5  | 99.8  | 98.7  | 101.1 | 103.2 | 100.0 | 143.9 |
| 20000 | 86.6  | 89.0  | 90.9  | 93.9  | 94.3  | 94.8  | 95.9  | 95.5  | 97.1  | 95.4  | 99.0  | 101.5 | 98.1  | 143.4 |
| 25000 | 83.6  | 86.9  | 88.9  | 91.7  | 92.9  | 93.2  | 93.9  | 93.9  | 95.2  | 93.6  | 95.4  | 98.5  | 92.5  | 143.3 |
| 31500 | 77.8  | 81.8  | 83.3  | 87.4  | 87.2  | 88.3  | 88.6  | 89.2  | 90.6  | 89.4  | 91.5  | 94.9  | 87.4  | 142.0 |
| 40000 | 74.6  | 78.9  | 80.9  | 83.9  | 83.7  | 85.1  | 85.7  | 85.8  | 87.9  | 86.7  | 88.6  | 92.7  | 84.3  | 143.1 |
| 50000 | 70.6  | 76.0  | 77.1  | 79.6  | 80.5  | 81.5  | 81.5  | 82.0  | 85.0  | 84.4  | 86.3  | 91.2  | 82.6  | 144.8 |
| 63000 | 66.6  | 74.1  | 72.9  | 74.9  | 76.3  | 77.7  | 76.9  | 78.9  | 80.8  | 81.7  | 85.4  | 89.0  | 79.7  | 147.3 |
| 80000 | 60.9  | 73.9  | 68.4  | 69.0  | 70.1  | 72.8  | 70.9  | 72.3  | 75.6  | 78.8  | 81.8  | 84.0  | 71.8  | 149.6 |
| OASPL | 110.8 | 111.4 | 112.1 | 113.0 | 112.7 | 112.3 | 114.1 | 114.7 | 116.7 | 121.4 | 125.8 | 128.9 | 128.2 | 163.3 |
| PNL   | 124.1 | 125.0 | 125.4 | 126.0 | 125.4 | 125.0 | 126.5 | 127.4 | 129.5 | 133.8 | 137.3 | 140.5 | 139.0 |       |
| PNLT  | 125.3 | 126.3 | 126.9 | 126.0 | 126.9 | 126.7 | 127.9 | 127.4 | 129.5 | 133.8 | 137.3 | 140.5 | 139.0 |       |
| DBA   | 111.3 | 111.7 | 112.3 | 113.0 | 112.5 | 112.0 | 113.3 | 114.3 | 116.4 | 121.1 | 125.5 | 128.7 | 127.6 |       |

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OF FOUR QUALITY

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH270 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1688.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1760.7 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-1319 TAPE = X1319C TEST PT NO = 1319 NC = AEO61 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1319 X1319F

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.5  | 80.8  | 79.1  | 79.4  | 81.2  | 78.8  | 79.5  | 80.9  | 82.1  | 95.7  | 88.0  | 93.7  | 94.4  | 129.9 |
| 63    | 89.4  | 89.2  | 86.0  | 85.1  | 88.4  | 85.7  | 87.1  | 86.5  | 87.7  | 103.5 | 90.2  | 97.9  | 99.0  | 136.4 |
| 80    | 86.4  | 90.5  | 86.5  | 88.5  | 87.9  | 88.7  | 90.4  | 89.3  | 90.5  | 92.1  | 91.7  | 94.4  | 96.5  | 132.5 |
| 100   | 96.5  | 91.5  | 87.8  | 90.3  | 90.2  | 89.8  | 90.9  | 93.1  | 91.5  | 93.6  | 95.2  | 98.9  | 101.6 | 135.3 |
| 125   | 85.2  | 87.9  | 89.7  | 91.7  | 91.6  | 91.5  | 92.3  | 92.2  | 91.7  | 95.0  | 99.2  | 103.8 | 106.0 | 138.3 |
| 160   | 85.4  | 81.7  | 87.7  | 87.8  | 88.6  | 88.5  | 93.1  | 89.8  | 90.2  | 94.8  | 100.4 | 104.4 | 108.3 | 139.2 |
| 200   | 85.3  | 87.6  | 87.4  | 88.9  | 89.0  | 88.9  | 93.3  | 93.9  | 95.4  | 97.2  | 101.3 | 107.0 | 110.4 | 141.3 |
| 250   | 84.5  | 91.6  | 88.6  | 89.4  | 88.7  | 91.3  | 95.0  | 95.4  | 96.1  | 101.4 | 107.3 | 111.5 | 113.1 | 145.0 |
| 315   | 86.6  | 89.7  | 88.7  | 92.4  | 92.8  | 92.7  | 97.6  | 96.5  | 98.4  | 103.5 | 108.6 | 113.6 | 115.2 | 146.9 |
| 400   | 86.5  | 90.3  | 90.8  | 91.5  | 92.2  | 92.5  | 105.2 | 97.3  | 99.3  | 107.4 | 112.0 | 115.9 | 116.1 | 149.2 |
| 500   | 88.7  | 90.5  | 91.1  | 92.8  | 92.7  | 93.5  | 96.4  | 97.8  | 100.8 | 108.9 | 114.3 | 116.9 | 116.8 | 150.2 |
| 630   | 89.2  | 91.7  | 93.2  | 94.1  | 94.4  | 95.0  | 96.1  | 98.8  | 101.0 | 110.5 | 115.7 | 118.6 | 117.3 | 151.5 |
| 800   | 92.4  | 93.0  | 94.5  | 96.5  | 96.6  | 95.7  | 97.9  | 100.8 | 103.0 | 110.8 | 116.7 | 118.6 | 117.8 | 152.0 |
| 1000  | 98.9  | 100.5 | 102.0 | 102.1 | 99.9  | 98.0  | 98.6  | 101.3 | 104.0 | 111.1 | 116.4 | 119.4 | 119.0 | 152.7 |
| 1250  | 97.8  | 99.8  | 100.8 | 103.7 | 104.4 | 104.6 | 104.7 | 103.1 | 104.3 | 110.9 | 116.0 | 119.4 | 119.2 | 153.0 |
| 1600  | 100.0 | 98.9  | 98.8  | 99.8  | 99.7  | 100.6 | 102.9 | 103.7 | 105.8 | 110.2 | 115.5 | 119.7 | 119.2 | 152.8 |
| 2000  | 103.8 | 102.7 | 102.1 | 101.7 | 100.0 | 98.9  | 101.4 | 103.0 | 105.6 | 109.9 | 113.9 | 118.7 | 116.7 | 151.6 |
| 2500  | 102.5 | 102.5 | 103.1 | 102.9 | 102.2 | 100.3 | 101.2 | 103.8 | 105.7 | 111.0 | 113.8 | 117.3 | 114.6 | 151.0 |
| 3150  | 102.1 | 102.9 | 103.2 | 103.2 | 102.0 | 100.9 | 102.5 | 103.2 | 105.0 | 109.6 | 112.9 | 115.3 | 112.6 | 149.8 |
| 4000  | 99.5  | 100.0 | 101.6 | 102.4 | 101.7 | 101.7 | 101.3 | 103.6 | 106.0 | 108.4 | 111.4 | 113.2 | 111.0 | 148.6 |
| 5000  | 98.8  | 99.8  | 100.9 | 101.3 | 101.1 | 101.3 | 102.5 | 103.3 | 106.0 | 107.6 | 111.4 | 112.5 | 109.5 | 148.3 |
| 6300  | 97.0  | 98.5  | 99.4  | 100.6 | 101.3 | 100.0 | 101.8 | 103.2 | 105.0 | 106.3 | 109.1 | 110.4 | 107.4 | 147.0 |
| 8000  | 94.9  | 96.9  | 98.5  | 99.9  | 100.2 | 99.7  | 100.9 | 102.5 | 104.2 | 105.3 | 107.3 | 108.1 | 105.4 | 145.9 |
| 10000 | 93.6  | 96.1  | 97.6  | 99.4  | 99.4  | 99.9  | 100.4 | 102.1 | 103.4 | 104.5 | 106.0 | 107.2 | 104.3 | 145.7 |
| 12500 | 91.5  | 93.7  | 95.7  | 98.2  | 97.5  | 98.3  | 99.1  | 100.3 | 102.1 | 100.7 | 103.7 | 105.6 | 102.3 | 144.6 |
| 16000 | 88.8  | 92.3  | 93.7  | 96.2  | 96.6  | 96.6  | 97.4  | 98.5  | 99.8  | 98.7  | 101.1 | 103.2 | 100.0 | 143.9 |
| 20000 | 86.6  | 89.0  | 90.9  | 93.9  | 94.3  | 94.8  | 95.9  | 95.5  | 97.1  | 95.4  | 99.0  | 101.5 | 98.1  | 143.4 |
| 25000 | 83.6  | 86.9  | 88.9  | 91.7  | 92.9  | 93.2  | 93.9  | 93.9  | 95.2  | 93.6  | 95.4  | 98.5  | 92.5  | 143.3 |
| 31500 | 77.8  | 81.8  | 83.3  | 87.4  | 87.2  | 88.3  | 88.6  | 89.2  | 90.6  | 89.4  | 91.5  | 94.9  | 87.4  | 142.0 |
| 40000 | 74.6  | 78.9  | 80.9  | 83.9  | 83.7  | 85.1  | 85.7  | 85.8  | 87.9  | 86.7  | 88.6  | 92.7  | 84.3  | 143.1 |
| 50000 | 70.6  | 76.0  | 77.1  | 79.6  | 80.5  | 81.5  | 81.5  | 82.0  | 85.0  | 84.4  | 86.3  | 91.2  | 82.6  | 144.8 |
| 63000 | 66.6  | 74.1  | 72.9  | 74.9  | 76.3  | 77.7  | 76.9  | 78.9  | 80.8  | 81.7  | 85.4  | 89.0  | 79.7  | 147.3 |
| 80000 | 60.9  | 73.9  | 68.4  | 69.0  | 70.1  | 72.8  | 70.9  | 72.3  | 75.6  | 78.8  | 81.8  | 84.0  | 71.8  | 149.6 |

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DASPL 110.8 111.4 112.1 113.0 112.7 112.3 114.1 114.7 116.7 121.4 125.8 128.9 128.2 163.3

PNL 124.1 125.0 125.4 126.0 125.4 125.0 126.5 127.4 129.5 133.8 137.3 140.5 139.0

PNLT 125.3 126.3 126.9 126.0 126.9 126.7 127.9 127.4 129.5 133.8 137.3 140.5 139.0

DBA 182.6 194.4 189.8 190.9 192.0 194.3 192.8 194.3 197.2 199.7 202.8 205.4 194.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH270 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 71.00 PAMB HG = 29.40 RELHUM = 70.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1688.3 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1760.7 FPS AE18 = 18.0 SQ IN  
 RUNPT = 82F-ZER-1319 TAPE = X1319F TEST PT NO = 1319 NC = AEO61 CORR FAN SPEED = RPM



## FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS

59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1319 X13191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 65.1 | 70.4 | 72.0 | 73.4 | 74.5  | 75.0  | 87.5  | 79.2  | 80.5  | 87.5  | 90.6  | 92.3  | 89.1  | 167.2 |
| 63    | 67.3 | 70.6 | 72.2 | 74.7 | 75.0  | 76.0  | 78.7  | 79.7  | 82.0  | 89.0  | 92.8  | 93.3  | 89.8  | 168.3 |
| 80    | 67.7 | 71.8 | 74.4 | 76.0 | 76.6  | 77.4  | 78.4  | 80.6  | 82.1  | 90.6  | 94.2  | 94.9  | 90.2  | 169.6 |
| 100   | 70.9 | 73.0 | 75.6 | 78.3 | 78.8  | 78.1  | 80.1  | 82.6  | 84.1  | 90.8  | 95.1  | 94.8  | 90.5  | 170.1 |
| 125   | 77.2 | 80.4 | 83.0 | 83.9 | 82.0  | 80.3  | 80.8  | 83.0  | 85.0  | 91.0  | 94.8  | 95.4  | 91.5  | 170.8 |
| 160   | 75.9 | 79.5 | 81.7 | 85.3 | 86.5  | 86.7  | 86.7  | 84.7  | 85.2  | 90.6  | 94.1  | 95.2  | 91.3  | 171.0 |
| 200   | 77.9 | 78.5 | 79.5 | 81.3 | 81.6  | 82.6  | 84.8  | 85.2  | 86.5  | 89.7  | 93.4  | 95.2  | 90.9  | 170.8 |
| 250   | 81.3 | 81.9 | 82.5 | 83.0 | 81.7  | 80.7  | 83.1  | 84.2  | 86.0  | 89.1  | 91.4  | 93.7  | 87.7  | 169.6 |
| 315   | 79.6 | 81.4 | 83.2 | 83.8 | 83.6  | 81.9  | 82.6  | 84.8  | 85.9  | 89.9  | 90.9  | 91.8  | 84.8  | 169.0 |
| 400   | 78.7 | 81.4 | 83.0 | 83.9 | 83.2  | 82.1  | 83.6  | 83.8  | 84.8  | 88.1  | 89.5  | 89.1  | 81.8  | 167.8 |
| 500   | 75.7 | 78.1 | 81.0 | 82.8 | 82.5  | 82.6  | 82.1  | 83.9  | 85.4  | 86.6  | 87.6  | 86.4  | 79.2  | 166.6 |
| 630   | 74.5 | 77.5 | 80.0 | 81.4 | 81.7  | 82.0  | 83.0  | 83.3  | 85.1  | 85.3  | 87.1  | 85.0  | 76.7  | 166.3 |
| 800   | 72.1 | 75.9 | 78.2 | 80.4 | 81.6  | 80.5  | 82.1  | 83.0  | 83.8  | 83.7  | 84.3  | 82.2  | 73.5  | 165.0 |
| 1000  | 69.6 | 74.0 | 77.1 | 79.6 | 80.3  | 80.1  | 81.1  | 82.1  | 82.8  | 82.3  | 82.0  | 79.2  | 70.3  | 164.0 |
| 1250  | 67.9 | 72.8 | 76.0 | 78.8 | 79.4  | 80.1  | 80.4  | 81.5  | 81.8  | 81.3  | 80.2  | 77.6  | 67.7  | 163.7 |
| 1600  | 64.9 | 69.8 | 74.7 | 77.3 | 77.3  | 78.2  | 78.8  | 79.3  | 80.0  | 76.9  | 77.1  | 74.5  | 63.4  | 162.6 |
| 2000  | 61.2 | 67.8 | 71.3 | 75.1 | 76.2  | 76.4  | 77.0  | 77.4  | 77.4  | 74.2  | 73.5  | 70.5  | 58.0  | 161.9 |
| 2500  | 57.2 | 63.3 | 67.6 | 72.1 | 73.3  | 74.1  | 74.9  | 73.7  | 73.7  | 69.7  | 69.6  | 66.0  | 51.3  | 161.4 |
| 3150  | 50.9 | 58.7 | 63.7 | 68.4 | 70.6  | 71.2  | 71.6  | 70.6  | 70.0  | 65.4  | 62.7  | 58.0  | 37.2  | 161.4 |
| 4000  | 38.8 | 48.9 | 54.3 | 60.8 | 61.9  | 63.4  | 63.3  | 62.5  | 61.5  | 56.5  | 52.5  | 45.6  | 17.7  | 160.0 |
| 5000  | 25.8 | 38.5 | 45.6 | 51.9 | 53.4  | 55.3  | 55.4  | 53.8  | 52.7  | 46.3  | 39.8  | 29.6  |       | 161.1 |
| 6300  | 4.1  | 21.3 | 29.8 | 36.8 | 40.1  | 41.9  | 41.1  | 39.2  | 37.7  | 29.7  | 19.7  | 4.0   |       | 162.8 |
| 8000  |      |      | 4.2  | 12.8 | 17.8  | 20.3  | 18.4  | 16.8  | 12.2  | 2.2   |       |       |       | 165.4 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |       | 167.6 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |       |       |
| GASPL | 87.7 | 89.9 | 91.9 | 93.6 | 93.6  | 93.4  | 95.1  | 95.1  | 96.4  | 100.4 | 103.4 | 104.1 | 99.6  | 181.0 |
| PNL   | 92.1 | 95.2 | 97.6 | 99.6 | 99.9  | 100.0 | 101.0 | 101.3 | 102.1 | 104.2 | 105.8 | 106.0 | 100.3 |       |
| PNLT  | 92.7 | 95.9 | 98.3 | 99.6 | 100.7 | 100.9 | 101.7 | 101.3 | 102.7 | 104.8 | 105.8 | 107.1 | 100.3 |       |
| DBA   | 81.6 | 84.5 | 87.0 | 88.9 | 89.3  | 89.3  | 90.1  | 90.8  | 91.7  | 92.6  | 93.8  | 93.6  | 87.3  |       |

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MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

|                 |                      |                        |                      |                 |                   |
|-----------------|----------------------|------------------------|----------------------|-----------------|-------------------|
| VEHICL = ADH270 | TEST DATE = 08-25-82 | LOCAT = C41 ANCH CH    | CONFIG = 3           | MODEL = AX      | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 71.00       | PAMB HG = 29.40 | RELHUM = 70.8 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH                    | EXT DIST = 2400.0 FT | EXT CONFIG = SL | MIKE HT =         |
| FNIN1 =         | LBS XNL =            | RPM                    | XNH =                | RPM             | V8 = 1688.3 FPS   |
| FNRAMB =        | LBS XNLR =           | RPM                    | XNHR =               | RPM             | V18 = 1760.7 FPS  |
|                 |                      |                        |                      |                 | AE8 = 4.0 SQ IN   |
|                 |                      |                        |                      |                 | AE18 = 18.0 SQ IN |

RUNPT = 82F-ZER-1319 TAPE = X13191 TEST PT NO = 1319 NC = AE061 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1320 X1320C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 86.0  | 83.1  | 80.8  | 81.4  | 82.0  | 79.6  | 78.7  | 81.6  | 82.8  | 93.7  | 90.0  | 89.2  | 97.4  | 129.7 |
| 63    | 90.9  | 88.7  | 85.0  | 87.1  | 89.4  | 85.7  | 85.4  | 87.3  | 88.2  | 103.0 | 91.7  | 90.4  | 97.3  | 135.6 |
| 80    | 85.9  | 90.0  | 86.0  | 88.0  | 87.4  | 87.7  | 89.1  | 89.0  | 89.7  | 90.1  | 89.9  | 92.9  | 97.8  | 131.9 |
| 100   | 84.5  | 90.0  | 85.8  | 88.1  | 87.9  | 87.5  | 88.9  | 91.1  | 89.0  | 88.8  | 92.0  | 96.9  | 101.1 | 133.4 |
| 125   | 83.2  | 85.9  | 87.7  | 89.7  | 89.6  | 89.0  | 89.8  | 90.0  | 89.0  | 90.3  | 96.2  | 100.8 | 103.8 | 135.7 |
| 160   | 82.2  | 80.2  | 84.7  | 84.8  | 85.4  | 84.5  | 90.6  | 85.8  | 87.0  | 90.8  | 96.9  | 100.9 | 105.0 | 135.8 |
| 200   | 84.8  | 82.6  | 82.1  | 83.4  | 84.8  | 85.1  | 88.8  | 88.9  | 91.1  | 92.2  | 97.3  | 102.5 | 106.7 | 137.2 |
| 250   | 80.5  | 83.6  | 82.6  | 84.4  | 84.2  | 85.3  | 89.5  | 90.9  | 91.6  | 95.7  | 102.8 | 106.7 | 108.1 | 140.1 |
| 315   | 82.9  | 83.9  | 83.2  | 85.4  | 86.1  | 86.2  | 92.1  | 91.0  | 92.9  | 98.3  | 103.9 | 108.1 | 109.5 | 141.5 |
| 400   | 80.7  | 83.3  | 83.8  | 85.2  | 86.2  | 86.0  | 97.7  | 91.1  | 93.8  | 100.6 | 106.5 | 110.4 | 108.3 | 143.0 |
| 500   | 82.2  | 83.8  | 84.8  | 86.8  | 86.7  | 87.8  | 89.9  | 91.3  | 95.1  | 101.9 | 109.0 | 110.9 | 106.6 | 143.7 |
| 630   | 82.4  | 84.2  | 86.0  | 87.6  | 87.9  | 89.0  | 90.6  | 92.8  | 95.7  | 104.0 | 110.7 | 111.1 | 103.3 | 144.4 |
| 800   | 84.4  | 84.7  | 87.0  | 88.0  | 88.9  | 89.2  | 92.1  | 94.8  | 97.2  | 104.6 | 111.7 | 109.9 | 100.5 | 144.6 |
| 1000  | 86.7  | 86.7  | 88.0  | 88.9  | 89.4  | 90.0  | 92.1  | 95.3  | 98.5  | 104.8 | 110.2 | 108.4 | 98.3  | 143.5 |
| 1250  | 87.3  | 90.3  | 90.1  | 91.7  | 90.7  | 91.6  | 93.7  | 96.4  | 98.8  | 104.9 | 109.0 | 104.9 | 97.0  | 142.5 |
| 1600  | 90.5  | 90.4  | 90.6  | 91.3  | 92.0  | 91.8  | 94.9  | 96.5  | 100.3 | 103.9 | 107.5 | 102.7 | 96.2  | 141.5 |
| 2000  | 97.5  | 96.9  | 94.8  | 93.2  | 92.0  | 91.9  | 94.9  | 97.7  | 99.6  | 103.9 | 105.6 | 100.9 | 95.0  | 141.1 |
| 2500  | 97.5  | 99.0  | 99.3  | 99.4  | 96.4  | 93.8  | 95.0  | 98.6  | 101.0 | 104.8 | 103.8 | 99.1  | 93.1  | 141.9 |
| 3150  | 95.4  | 97.4  | 97.9  | 99.0  | 98.8  | 97.4  | 97.3  | 98.2  | 100.0 | 103.6 | 103.1 | 97.6  | 92.3  | 141.5 |
| 4000  | 93.6  | 95.0  | 96.3  | 97.7  | 97.5  | 97.9  | 97.8  | 98.6  | 101.0 | 102.4 | 101.2 | 96.2  | 91.3  | 140.9 |
| 5000  | 93.6  | 95.1  | 95.9  | 96.3  | 95.9  | 96.3  | 98.2  | 99.0  | 101.5 | 101.4 | 101.2 | 96.3  | 91.5  | 140.7 |
| 6300  | 92.0  | 94.1  | 95.1  | 96.2  | 95.8  | 95.0  | 97.1  | 99.0  | 101.0 | 100.9 | 99.4  | 94.5  | 90.0  | 140.2 |
| 8000  | 91.4  | 93.8  | 94.1  | 95.3  | 94.7  | 94.8  | 96.0  | 97.8  | 100.3 | 99.1  | 98.4  | 92.4  | 88.2  | 139.5 |
| 10000 | 90.0  | 93.2  | 93.9  | 95.5  | 94.5  | 94.7  | 95.7  | 96.9  | 98.8  | 99.2  | 96.9  | 92.6  | 87.6  | 139.4 |
| 12500 | 88.7  | 90.8  | 92.6  | 94.1  | 93.2  | 93.4  | 94.2  | 95.6  | 96.7  | 95.9  | 94.6  | 90.7  | 86.4  | 138.4 |
| 16000 | 85.8  | 89.3  | 90.4  | 92.9  | 92.1  | 91.8  | 92.7  | 93.8  | 94.8  | 92.7  | 92.1  | 88.1  | 84.2  | 137.9 |
| 20000 | 83.9  | 86.4  | 88.3  | 90.8  | 90.6  | 90.6  | 91.9  | 91.0  | 92.2  | 89.5  | 89.3  | 86.0  | 82.2  | 137.6 |
| 25000 | 80.8  | 83.9  | 85.6  | 88.2  | 88.3  | 89.4  | 90.1  | 89.6  | 89.9  | 86.6  | 85.6  | 83.4  | 78.6  | 137.8 |
| 31500 | 74.6  | 78.6  | 79.9  | 83.5  | 83.0  | 84.4  | 84.9  | 84.2  | 84.9  | 81.6  | 80.6  | 78.2  | 72.5  | 135.8 |
| 40000 | 71.2  | 75.9  | 77.6  | 80.4  | 80.4  | 81.7  | 81.8  | 81.5  | 81.9  | 78.0  | 77.6  | 74.8  | 68.9  | 136.8 |
| 50000 | 68.0  | 73.4  | 73.3  | 76.3  | 76.9  | 78.4  | 77.9  | 77.7  | 78.9  | 75.2  | 73.5  | 71.0  | 65.2  | 137.7 |
| 63000 | 64.3  | 72.1  | 69.7  | 72.2  | 72.0  | 74.4  | 72.9  | 73.9  | 74.4  | 71.5  | 69.9  | 66.7  | 60.6  | 138.9 |
| 80000 | 59.5  | 70.3  | 65.8  | 66.6  | 66.5  | 69.4  | 66.5  | 66.7  | 68.2  | 67.4  | 63.7  | 59.6  | 51.7  | 140.5 |
| OASPL | 104.9 | 106.3 | 106.6 | 107.5 | 106.9 | 106.6 | 108.4 | 109.5 | 111.7 | 115.4 | 119.2 | 118.9 | 116.6 | 155.5 |
| PNL   | 118.4 | 119.8 | 120.1 | 120.9 | 120.6 | 120.0 | 121.3 | 122.4 | 124.7 | 127.9 | 129.2 | 127.2 | 124.0 |       |
| PNLT  | 119.5 | 119.8 | 120.1 | 122.0 | 120.6 | 120.0 | 122.4 | 122.4 | 124.7 | 127.9 | 129.2 | 127.2 | 124.0 |       |
| DBA   | 105.0 | 106.2 | 106.5 | 107.1 | 106.3 | 105.9 | 107.3 | 109.0 | 111.4 | 115.0 | 118.3 | 116.6 | 111.3 |       |

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## NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH284 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM VB = 1692.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1767.2 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-400-1320 TAPE = X1320C TEST PT NO = 1320 NC = AE061 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DBG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1320 X1320F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 86.6  | 88.7  | 86.6  | 87.1  | 85.5  | 85.3  | 87.6  | 87.3  | 89.5  | 93.9  | 99.0  | 103.6 | 106.9 | 137.9 |
| 315   | 86.6  | 88.7  | 86.6  | 87.1  | 87.6  | 86.4  | 90.7  | 88.2  | 90.5  | 96.5  | 102.0 | 106.7 | 107.2 | 139.8 |
| 400   | 88.9  | 89.1  | 87.3  | 88.2  | 88.0  | 86.3  | 96.4  | 88.3  | 92.1  | 98.1  | 105.0 | 108.2 | 107.1 | 141.3 |
| 500   | 88.1  | 89.4  | 88.6  | 88.6  | 88.6  | 88.1  | 88.7  | 88.7  | 94.2  | 102.0 | 108.6 | 110.7 | 107.3 | 143.5 |
| 630   | 89.9  | 90.2  | 89.8  | 90.2  | 89.8  | 89.4  | 90.0  | 91.1  | 95.5  | 103.5 | 111.0 | 111.8 | 108.3 | 145.2 |
| 800   | 90.1  | 90.6  | 91.0  | 91.1  | 90.9  | 89.8  | 91.6  | 93.3  | 98.1  | 104.2 | 110.1 | 111.4 | 108.3 | 144.8 |
| 1000  | 92.1  | 91.2  | 92.1  | 91.6  | 91.3  | 90.6  | 91.7  | 93.9  | 98.7  | 104.7 | 109.4 | 108.6 | 107.7 | 143.8 |
| 1250  | 93.0  | 92.3  | 92.5  | 92.1  | 92.8  | 92.4  | 93.5  | 95.2  | 100.5 | 103.9 | 108.1 | 106.5 | 107.2 | 143.0 |
| 1600  | 93.6  | 95.8  | 94.6  | 95.0  | 94.0  | 92.9  | 95.0  | 95.6  | 100.1 | 104.2 | 106.7 | 105.2 | 106.4 | 142.5 |
| 2000  | 95.8  | 95.1  | 94.5  | 94.3  | 94.3  | 93.2  | 95.2  | 97.1  | 101.4 | 105.1 | 104.9 | 103.7 | 105.1 | 142.1 |
| 2500  | 104.7 | 103.0 | 99.6  | 96.7  | 98.8  | 95.4  | 95.4  | 98.0  | 101.1 | 104.7 | 105.0 | 102.9 | 105.0 | 143.6 |
| 3150  | 103.6 | 104.1 | 103.4 | 102.5 | 101.9 | 99.4  | 98.4  | 98.2  | 103.1 | 104.3 | 103.8 | 102.2 | 104.5 | 144.7 |
| 4000  | 101.8 | 103.3 | 103.0 | 103.1 | 101.2 | 100.5 | 99.8  | 99.6  | 104.0 | 103.7 | 104.1 | 102.5 | 104.9 | 144.8 |
| 5000  | 101.1 | 101.7 | 102.1 | 102.4 | 99.9  | 99.3  | 100.6 | 100.4 | 103.3 | 103.0 | 102.3 | 100.7 | 103.5 | 144.1 |
| 6300  | 100.5 | 101.5 | 101.6 | 101.1 | 99.9  | 98.0  | 99.4  | 100.3 | 102.7 | 101.3 | 101.3 | 98.7  | 102.0 | 143.5 |
| 8000  | 99.3  | 100.6 | 100.8 | 100.9 | 98.8  | 97.8  | 98.3  | 99.1  | 101.6 | 101.7 | 100.1 | 99.2  | 101.6 | 143.2 |
| 10000 | 98.5  | 100.2 | 99.6  | 99.8  | 98.5  | 97.7  | 98.0  | 98.2  | 100.5 | 99.5  | 98.7  | 97.8  | 100.6 | 142.7 |
| 12500 | 96.8  | 99.3  | 99.2  | 99.7  | 97.2  | 96.4  | 96.7  | 97.4  | 99.3  | 96.9  | 96.7  | 95.6  | 98.5  | 142.4 |
| 16000 | 95.0  | 96.4  | 97.3  | 97.8  | 96.1  | 94.8  | 95.1  | 95.7  | 95.5  | 92.6  | 92.6  | 92.1  | 95.1  | 141.4 |
| 20000 | 91.7  | 94.4  | 94.7  | 95.3  | 94.6  | 93.6  | 93.7  | 91.7  | 93.9  | 90.4  | 89.8  | 90.4  | 92.5  | 141.2 |
| 25000 | 89.2  | 91.0  | 92.0  | 93.5  | 92.4  | 92.4  | 91.8  | 90.3  | 90.8  | 87.4  | 87.0  | 87.7  | 88.7  | 141.1 |
| 31500 | 85.3  | 87.7  | 88.6  | 90.1  | 87.6  | 87.4  | 87.0  | 85.7  | 88.6  | 84.9  | 85.0  | 85.3  | 86.3  | 140.5 |
| 40000 | 81.1  | 83.9  | 83.7  | 85.7  | 85.0  | 84.7  | 83.9  | 82.9  | 86.5  | 82.9  | 81.9  | 82.7  | 83.9  | 141.3 |
| 50000 | 77.3  | 80.7  | 81.0  | 82.2  | 81.5  | 81.4  | 80.2  | 79.4  | 83.1  | 80.4  | 79.6  | 79.8  | 81.0  | 142.4 |
| 63000 | 73.1  | 77.3  | 75.7  | 77.2  | 76.6  | 77.4  | 75.4  | 75.9  | 76.9  | 75.9  | 72.7  | 72.1  | 71.9  | 142.8 |
| 80000 | 67.9  | 74.6  | 70.6  | 71.6  | 70.4  | 72.4  | 68.5  | 67.7  | 67.1  | 66.0  | 62.9  | 62.3  | 62.1  | 143.5 |

DASPL 111.2 111.8 111.3 111.2 109.9 108.6 109.3 109.6 113.0 115.3 118.6 119.1 118.4 157.0  
 PNL 124.2 124.7 124.0 123.7 122.7 121.3 121.6 121.8 125.8 127.5 128.7 128.0 129.3  
 PNLT 125.9 125.8 124.0 123.7 122.7 121.3 122.8 121.8 125.8 127.5 128.7 128.0 129.3  
 DBA 189.5 195.5 192.3 193.4 192.4 193.9 190.8 190.4 191.0 189.6 186.9 186.6 186.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, C-D,C-D/DFSC-3/NAS3-23166

VEHICL = ADH284 TEST DATE = 08-25-82 LOCAT = C41 ANECH CH CONFIG = 3 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.40 RELHUM = 58.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1692.3 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1767.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1320 TAPE = X1320F TEST PT NO = 1320 NC = AE061 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1320 X13201

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 67.5 | 69.2 | 68.5 | 70.2 | 70.3 | 68.7 | 78.7 | 70.3 | 73.3 | 78.3 | 83.6 | 84.5 | 80.2 | 159.3 |
| 63    | 66.6 | 69.5 | 69.8 | 70.5 | 70.9 | 70.6 | 71.0 | 70.6 | 75.4 | 82.1 | 87.1 | 87.1 | 80.3 | 161.6 |
| 80    | 68.4 | 70.2 | 70.9 | 72.1 | 72.1 | 71.8 | 72.2 | 72.9 | 77.6 | 83.6 | 89.5 | 88.1 | 81.2 | 163.2 |
| 100   | 68.5 | 70.6 | 72.1 | 72.9 | 73.2 | 72.1 | 73.8 | 75.1 | 79.2 | 84.2 | 88.5 | 87.5 | 81.1 | 162.8 |
| 125   | 70.4 | 71.1 | 73.1 | 73.3 | 73.5 | 72.9 | 73.9 | 75.6 | 79.7 | 84.6 | 87.8 | 84.6 | 80.3 | 161.9 |
| 160   | 71.2 | 72.0 | 73.3 | 73.7 | 74.8 | 74.5 | 75.5 | 76.8 | 81.3 | 83.7 | 86.3 | 82.3 | 79.3 | 161.0 |
| 200   | 71.4 | 75.4 | 75.3 | 76.5 | 75.9 | 74.9 | 76.8 | 77.0 | 80.7 | 83.8 | 84.5 | 80.7 | 78.1 | 160.5 |
| 250   | 73.3 | 74.4 | 74.9 | 75.5 | 75.9 | 75.0 | 76.9 | 78.3 | 81.8 | 84.4 | 82.4 | 78.7 | 76.1 | 160.1 |
| 315   | 81.9 | 81.9 | 79.8 | 77.6 | 80.2 | 77.0 | 76.8 | 78.9 | 81.3 | 83.6 | 82.1 | 77.3 | 75.2 | 161.6 |
| 400   | 80.2 | 82.6 | 83.2 | 83.2 | 83.0 | 80.7 | 79.5 | 78.9 | 82.9 | 82.9 | 80.4 | 76.0 | 73.7 | 162.7 |
| 500   | 78.0 | 81.4 | 82.5 | 83.4 | 82.0 | 81.5 | 80.6 | 80.0 | 83.4 | 81.8 | 80.3 | 75.7 | 73.2 | 162.8 |
| 630   | 76.8 | 79.4 | 81.2 | 82.4 | 80.4 | 80.1 | 81.1 | 80.5 | 82.5 | 80.8 | 77.9 | 73.2 | 70.6 | 162.1 |
| 800   | 75.7 | 78.8 | 80.4 | 80.8 | 80.2 | 78.5 | 79.7 | 80.0 | 81.6 | 78.7 | 76.4 | 70.5 | 68.0 | 161.5 |
| 1000  | 74.1 | 77.7 | 79.4 | 80.5 | 78.9 | 78.1 | 78.4 | 78.7 | 80.2 | 78.8 | 74.8 | 70.3 | 66.4 | 161.2 |
| 1250  | 72.8 | 76.9 | 78.0 | 79.2 | 78.5 | 77.9 | 78.1 | 77.7 | 78.8 | 76.2 | 72.9 | 68.2 | 64.0 | 160.8 |
| 1600  | 70.2 | 75.4 | 77.1 | 78.8 | 77.0 | 76.4 | 76.4 | 76.5 | 77.2 | 73.0 | 70.0 | 64.6 | 59.6 | 160.4 |
| 2000  | 67.4 | 71.9 | 74.9 | 76.6 | 75.7 | 74.6 | 74.7 | 74.5 | 73.1 | 68.1 | 65.0 | 59.5 | 53.2 | 159.5 |
| 2500  | 62.3 | 68.8 | 71.4 | 74.5 | 73.6 | 72.9 | 72.7 | 69.9 | 70.6 | 64.7 | 60.4 | 54.9 | 45.6 | 159.2 |
| 3150  | 56.5 | 62.8 | 66.8 | 70.1 | 70.0 | 70.4 | 69.4 | 66.9 | 65.6 | 59.3 | 54.3 | 47.2 | 33.5 | 159.1 |
| 4000  | 46.3 | 54.8 | 59.5 | 63.5 | 62.3 | 62.5 | 61.7 | 59.0 | 59.6 | 52.0 | 46.0 | 35.9 | 16.6 | 158.5 |
| 5000  | 32.3 | 43.5 | 48.5 | 53.7 | 54.7 | 55.0 | 53.6 | 50.9 | 51.2 | 42.5 | 33.1 | 19.6 |      | 159.3 |
| 6300  | 10.7 | 26.1 | 33.7 | 39.3 | 41.1 | 41.7 | 39.8 | 36.6 | 35.7 | 25.8 | 13.1 |      |      | 160.4 |
| 8000  |      |      | 7.1  | 15.1 | 18.1 | 20.0 | 16.8 | 13.8 | 8.3  |      |      |      |      | 160.8 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 161.5 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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OF POOR QUALITY

|       |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| DASPL | 87.4 | 89.7 | 90.5 | 91.2 | 90.6 | 89.4 | 90.0 | 89.8 | 92.6 | 94.3 | 96.4 | 94.5 | 89.4 | 174.9 |
| PNL   | 93.3 | 96.3 | 97.5 | 98.9 | 98.2 | 97.3 | 97.5 | 97.1 | 98.9 | 98.4 | 97.7 | 94.8 | 89.9 |       |
| PNLT  | 94.2 | 96.9 | 98.2 | 99.4 | 98.7 | 97.3 | 98.0 | 97.1 | 99.6 | 98.4 | 97.7 | 94.8 | 89.9 |       |
| DBA   | 83.7 | 86.8 | 88.1 | 89.2 | 88.1 | 87.2 | 87.4 | 87.1 | 88.9 | 87.5 | 85.7 | 81.4 | 78.2 |       |

MODEL AREA = 142.1 SQ CM ( 22.0 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.973 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. C-D,C-D/DFSC-3/NAS3-23166

|          |   |        |           |          |          |          |          |              |           |            |       |         |            |       |        |            |          |
|----------|---|--------|-----------|----------|----------|----------|----------|--------------|-----------|------------|-------|---------|------------|-------|--------|------------|----------|
| VEHICL   | = | ADH284 | TEST DATE | =        | 08-25-82 | LOCAT    | =        | C41 ANECH CH | CONFIG    | =          | 3     | MODEL   | =          | AX    | FLTVEL | =          | 400. FPS |
| IAPLHA   | = | SB59   | IEGA      | =        | NO       | PWL AREA | =        | FULL SPHERE  | TAMB F    | =          | 74.00 | PAMB HG | =          | 29.40 | RELHUM | =          | 58.3 PCT |
| WIND DIR | = |        | DEG       | WIND VEL | =        | MPH      | EXT DIST | =            | 2400.0 FT | EXT CONFIG | =     | SL      | MIKE HT    | =     |        | NBFR       | =        |
| FNIN1    | = | LBS    | XNL       | =        |          | RPM      | XNH      | =            |           | RPM        | V8    | =       | 1692.3 FPS | AEB   | =      | 4.0 SQ IN  |          |
| FNRAMB   | = | LBS    | XNLR      | =        |          | RPM      | XNHR     | =            |           | RPM        | V18   | =       | 1767.2 FPS | AE18  | =      | 18.0 SQ IN |          |

RUNPT = 82F-400-1320 TAPE = X13201 TEST PT NO = 1320 NC = AE061 CORR FAN SPEED = RPM

#### 4.4 Acoustic Data of DFSC-4

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0401 X0401C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 80.8 | 77.8 | 74.1 | 76.6 | 76.2 | 76.3 | 77.2 | 77.9  | 78.6  | 79.7  | 83.0  | 86.0  | 88.4  | 122.3 |
| 63    | 86.9 | 86.2 | 79.5 | 82.5 | 85.1 | 83.2 | 84.1 | 83.5  | 83.7  | 81.8  | 84.4  | 88.4  | 92.3  | 127.1 |
| 80    | 81.7 | 86.0 | 83.5 | 84.5 | 83.6 | 85.7 | 86.1 | 86.0  | 87.0  | 87.1  | 87.9  | 91.6  | 93.5  | 128.9 |
| 100   | 82.7 | 88.8 | 84.0 | 86.1 | 87.4 | 87.0 | 87.4 | 89.3  | 87.8  | 90.3  | 93.2  | 95.2  | 98.3  | 132.1 |
| 125   | 78.9 | 83.2 | 85.0 | 85.5 | 87.1 | 87.5 | 87.8 | 89.0  | 88.2  | 91.3  | 95.7  | 99.3  | 100.8 | 133.9 |
| 160   | 81.4 | 78.5 | 82.7 | 82.0 | 83.6 | 84.0 | 88.9 | 86.0  | 87.0  | 91.3  | 96.9  | 99.6  | 103.0 | 134.5 |
| 200   | 82.8 | 80.6 | 81.1 | 82.7 | 84.0 | 86.1 | 88.0 | 88.2  | 91.4  | 92.4  | 97.1  | 101.5 | 104.4 | 135.9 |
| 250   | 80.0 | 83.6 | 83.1 | 84.4 | 84.2 | 85.8 | 88.5 | 90.4  | 91.6  | 97.1  | 102.3 | 105.2 | 106.1 | 138.9 |
| 315   | 81.9 | 84.2 | 83.4 | 85.0 | 87.3 | 88.4 | 90.8 | 91.2  | 93.9  | 98.5  | 102.9 | 106.6 | 107.7 | 140.2 |
| 400   | 80.0 | 83.5 | 84.5 | 85.1 | 86.4 | 87.3 | 97.9 | 92.3  | 94.8  | 100.1 | 104.7 | 107.4 | 107.3 | 141.3 |
| 500   | 81.5 | 83.8 | 84.8 | 85.8 | 86.9 | 88.5 | 90.4 | 92.3  | 95.6  | 100.1 | 105.3 | 107.4 | 107.3 | 141.2 |
| 630   | 81.2 | 84.5 | 85.7 | 86.5 | 88.1 | 89.0 | 90.1 | 93.0  | 95.0  | 100.8 | 104.4 | 106.1 | 106.0 | 140.4 |
| 800   | 82.2 | 84.7 | 86.5 | 87.3 | 88.6 | 90.2 | 91.4 | 94.3  | 96.5  | 100.8 | 103.7 | 104.1 | 103.8 | 139.5 |
| 1000  | 86.2 | 85.5 | 87.5 | 87.5 | 89.1 | 89.7 | 91.4 | 94.0  | 96.5  | 100.8 | 101.9 | 102.1 | 100.3 | 138.2 |
| 1250  | 85.0 | 89.1 | 88.3 | 89.2 | 89.5 | 91.1 | 92.5 | 94.1  | 96.6  | 99.9  | 100.3 | 99.0  | 97.7  | 137.2 |
| 1600  | 84.8 | 89.4 | 88.9 | 90.0 | 91.2 | 91.8 | 93.2 | 94.7  | 97.9  | 98.7  | 99.3  | 97.0  | 95.2  | 136.8 |
| 2000  | 85.8 | 88.4 | 89.3 | 90.0 | 90.8 | 91.9 | 93.4 | 95.2  | 97.6  | 98.4  | 97.6  | 95.2  | 92.7  | 136.3 |
| 2500  | 86.0 | 89.8 | 90.6 | 90.6 | 92.0 | 93.1 | 94.0 | 96.6  | 99.2  | 99.8  | 97.8  | 96.4  | 93.4  | 137.5 |
| 3150  | 86.6 | 89.9 | 90.7 | 91.0 | 92.3 | 94.1 | 96.0 | 97.2  | 99.3  | 100.1 | 98.9  | 97.6  | 95.3  | 138.2 |
| 4000  | 86.6 | 89.5 | 91.6 | 91.8 | 92.9 | 94.7 | 95.8 | 98.4  | 101.2 | 101.2 | 100.4 | 100.0 | 97.7  | 139.6 |
| 5000  | 89.0 | 91.5 | 92.9 | 93.1 | 94.1 | 95.8 | 97.2 | 100.0 | 102.7 | 102.8 | 103.4 | 103.0 | 100.5 | 141.7 |
| 6300  | 90.2 | 92.5 | 94.6 | 94.7 | 96.0 | 97.2 | 99.3 | 101.4 | 102.9 | 104.5 | 105.4 | 105.1 | 102.9 | 143.5 |
| 8000  | 90.3 | 93.1 | 93.7 | 94.2 | 94.6 | 96.1 | 97.3 | 100.2 | 102.6 | 103.7 | 104.2 | 104.0 | 102.9 | 142.9 |
| 10000 | 91.0 | 94.2 | 94.2 | 95.1 | 95.5 | 97.0 | 97.7 | 99.9  | 101.3 | 102.9 | 103.1 | 104.1 | 102.6 | 143.1 |
| 12500 | 91.1 | 91.6 | 94.2 | 95.0 | 95.1 | 97.1 | 97.1 | 98.8  | 100.3 | 99.9  | 101.0 | 102.6 | 101.1 | 142.6 |
| 16000 | 89.5 | 91.3 | 92.5 | 93.9 | 95.0 | 95.7 | 95.8 | 97.6  | 98.6  | 97.7  | 98.7  | 99.8  | 98.1  | 142.2 |
| 20000 | 88.6 | 89.6 | 91.3 | 92.4 | 92.9 | 94.5 | 94.8 | 95.9  | 96.7  | 95.4  | 97.4  | 97.2  | 94.8  | 142.1 |
| 25000 | 85.9 | 88.2 | 89.5 | 90.9 | 91.8 | 93.2 | 93.8 | 94.3  | 95.0  | 93.8  | 94.5  | 94.9  | 90.7  | 142.8 |
| 31500 | 79.3 | 82.6 | 83.6 | 85.9 | 86.9 | 88.5 | 88.0 | 89.6  | 90.1  | 89.5  | 89.8  | 89.4  | 84.7  | 140.9 |
| 40000 | 75.4 | 79.2 | 81.2 | 82.2 | 83.8 | 85.4 | 85.5 | 86.8  | 87.8  | 87.9  | 88.0  | 87.2  | 81.4  | 142.4 |
| 50000 | 71.1 | 75.3 | 77.1 | 78.2 | 81.0 | 82.5 | 82.2 | 83.2  | 85.0  | 86.0  | 85.4  | 84.1  | 77.6  | 143.8 |
| 63000 | 67.3 | 71.0 | 73.3 | 73.6 | 77.0 | 78.9 | 78.1 | 80.6  | 82.7  | 84.1  | 84.8  | 82.2  | 73.9  | 146.7 |
| 80000 | 59.9 | 67.4 | 69.0 | 68.9 | 71.5 | 75.4 | 73.7 | 75.7  | 80.2  | 82.0  | 82.5  | 78.3  | 68.3  | 150.4 |

OASPL 101.0 103.4 104.2 104.9 105.8 107.2 108.6 110.3 112.3 113.9 115.6 116.9 116.7 156.8  
 PNL 112.3 114.9 116.0 116.4 117.6 118.9 120.7 122.6 124.9 126.4 127.5 127.7 126.5  
 PNLT 112.3 115.6 116.0 116.4 117.6 118.9 122.0 122.6 124.9 126.4 127.5 127.7 126.5  
 DBA 98.6 101.5 102.5 102.9 103.9 105.3 106.9 109.0 111.3 112.8 113.8 114.1 113.2

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH216 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1637.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1919.8 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0401 TAPE = X0401C TEST PT NO = 0401 NC = AE058 CORR FAN SPEED = RPM

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P118E-03

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0401 X0401F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50     | 80.8  | 77.8  | 74.1  | 76.6  | 76.2  | 76.3  | 77.2  | 77.9  | 78.6  | 79.7  | 83.0  | 86.0  | 88.4  | 122.3 |
| 63     | 86.9  | 86.2  | 79.5  | 82.5  | 85.1  | 83.2  | 84.1  | 83.5  | 83.7  | 81.8  | 84.4  | 88.4  | 92.3  | 127.1 |
| 80     | 81.7  | 86.0  | 83.5  | 84.5  | 83.6  | 85.7  | 86.1  | 86.0  | 87.0  | 87.1  | 87.9  | 91.6  | 93.5  | 128.9 |
| 100    | 82.7  | 88.8  | 84.0  | 86.1  | 87.4  | 87.0  | 87.4  | 89.3  | 87.8  | 90.3  | 93.2  | 95.2  | 98.3  | 132.1 |
| 125    | 78.9  | 83.2  | 85.0  | 85.5  | 87.1  | 87.5  | 87.8  | 89.0  | 88.2  | 91.3  | 95.7  | 99.3  | 100.8 | 133.9 |
| 160    | 81.4  | 78.5  | 82.7  | 82.0  | 83.6  | 84.0  | 88.9  | 86.0  | 87.0  | 91.3  | 96.9  | 99.6  | 103.0 | 134.5 |
| 200    | 82.8  | 80.6  | 81.1  | 82.7  | 84.0  | 86.1  | 88.0  | 88.2  | 91.4  | 92.4  | 97.1  | 101.5 | 104.4 | 135.9 |
| 250    | 80.0  | 83.6  | 83.1  | 84.4  | 84.2  | 85.8  | 88.5  | 90.4  | 91.6  | 97.1  | 102.3 | 105.2 | 106.1 | 138.9 |
| 315    | 81.9  | 84.2  | 83.4  | 85.0  | 87.3  | 88.4  | 90.8  | 91.2  | 93.9  | 98.5  | 102.9 | 106.6 | 107.7 | 140.2 |
| 400    | 80.0  | 83.5  | 84.5  | 85.1  | 86.4  | 87.3  | 97.9  | 92.3  | 94.8  | 100.1 | 104.7 | 107.4 | 107.3 | 141.3 |
| 500    | 81.5  | 83.8  | 84.8  | 85.8  | 86.9  | 88.5  | 90.4  | 92.3  | 95.6  | 100.1 | 105.3 | 107.4 | 107.3 | 141.2 |
| 630    | 81.2  | 84.5  | 85.7  | 86.5  | 88.1  | 89.0  | 90.1  | 93.0  | 95.0  | 100.8 | 104.4 | 106.1 | 106.0 | 140.4 |
| 800    | 82.2  | 84.7  | 86.5  | 87.3  | 88.6  | 90.2  | 91.4  | 94.3  | 96.5  | 100.8 | 103.7 | 104.1 | 103.8 | 139.5 |
| 1000   | 86.2  | 85.5  | 87.5  | 87.5  | 89.1  | 89.7  | 91.4  | 94.0  | 96.5  | 100.8 | 101.9 | 102.1 | 100.3 | 138.2 |
| 1250   | 85.0  | 89.1  | 88.3  | 89.2  | 89.5  | 91.1  | 92.5  | 94.1  | 96.6  | 99.9  | 100.3 | 99.0  | 97.7  | 137.2 |
| 1600   | 84.8  | 89.4  | 88.9  | 90.0  | 91.2  | 91.8  | 93.2  | 94.7  | 97.9  | 98.7  | 99.3  | 97.0  | 95.2  | 136.8 |
| 2000   | 85.8  | 88.4  | 89.3  | 90.0  | 90.8  | 91.9  | 93.4  | 95.2  | 97.6  | 98.4  | 97.6  | 95.2  | 92.7  | 136.3 |
| 2500   | 86.0  | 89.8  | 90.6  | 90.6  | 92.0  | 93.1  | 94.0  | 96.6  | 99.2  | 99.8  | 97.8  | 96.4  | 93.4  | 137.5 |
| 3150   | 86.6  | 89.9  | 90.7  | 91.0  | 92.3  | 94.1  | 96.0  | 97.2  | 99.3  | 100.1 | 98.9  | 97.6  | 95.3  | 138.2 |
| 4000   | 86.6  | 89.5  | 91.6  | 91.8  | 92.9  | 94.7  | 95.8  | 98.4  | 101.2 | 101.2 | 100.4 | 100.0 | 97.7  | 139.6 |
| 5000   | 89.0  | 91.5  | 92.9  | 93.1  | 94.1  | 95.8  | 97.2  | 100.0 | 102.7 | 102.8 | 103.4 | 103.0 | 100.5 | 141.7 |
| 6300   | 90.2  | 92.5  | 94.6  | 94.7  | 96.0  | 97.2  | 99.3  | 101.4 | 102.9 | 104.5 | 105.4 | 105.1 | 102.9 | 143.5 |
| 8000   | 90.3  | 93.1  | 93.7  | 94.2  | 94.6  | 96.1  | 97.3  | 100.2 | 102.6 | 103.7 | 104.2 | 104.0 | 102.9 | 142.9 |
| 10000  | 91.0  | 94.2  | 94.2  | 95.1  | 95.5  | 97.0  | 97.7  | 99.9  | 101.3 | 102.9 | 103.1 | 104.1 | 102.6 | 143.1 |
| 12500  | 91.1  | 91.6  | 94.2  | 95.0  | 95.1  | 97.1  | 97.1  | 98.8  | 100.3 | 99.9  | 101.0 | 102.6 | 101.1 | 142.6 |
| 16000  | 89.5  | 91.3  | 92.5  | 93.9  | 95.0  | 95.7  | 95.8  | 97.6  | 98.6  | 97.7  | 98.7  | 99.8  | 98.1  | 142.2 |
| 20000  | 88.6  | 89.6  | 91.3  | 92.4  | 92.9  | 94.5  | 94.8  | 95.9  | 96.7  | 95.4  | 97.4  | 97.2  | 94.8  | 142.1 |
| 25000  | 85.9  | 88.2  | 89.5  | 90.9  | 91.8  | 93.2  | 93.8  | 94.3  | 95.0  | 93.8  | 94.5  | 94.9  | 90.7  | 142.8 |
| 31500  | 79.3  | 82.6  | 83.6  | 85.9  | 86.9  | 88.5  | 88.0  | 89.6  | 90.1  | 89.5  | 89.8  | 89.4  | 84.7  | 140.9 |
| 40000  | 75.4  | 79.2  | 81.2  | 82.2  | 83.8  | 85.4  | 85.5  | 86.8  | 87.8  | 87.9  | 88.0  | 87.2  | 81.4  | 142.4 |
| 50000  | 71.1  | 75.3  | 77.1  | 78.2  | 81.0  | 82.5  | 82.2  | 83.2  | 85.0  | 86.0  | 85.4  | 84.1  | 77.6  | 143.8 |
| 63000  | 67.3  | 71.0  | 73.3  | 73.6  | 77.0  | 78.9  | 78.1  | 80.6  | 82.7  | 84.1  | 84.8  | 82.2  | 73.9  | 146.7 |
| 80000  | 59.9  | 67.4  | 69.0  | 68.9  | 71.5  | 75.4  | 73.7  | 75.7  | 80.2  | 82.0  | 82.5  | 78.3  | 68.3  | 150.4 |
| OA PNL | 101.0 | 103.4 | 104.2 | 104.9 | 105.8 | 107.2 | 108.6 | 110.3 | 112.3 | 113.9 | 115.6 | 116.9 | 116.7 | 156.8 |
| PNL    | 112.3 | 114.9 | 116.0 | 116.4 | 117.6 | 118.9 | 120.7 | 122.6 | 124.9 | 126.4 | 127.5 | 127.7 | 126.5 |       |
| PNLT   | 112.3 | 115.6 | 116.0 | 116.4 | 117.6 | 118.9 | 122.0 | 122.6 | 124.9 | 126.4 | 127.5 | 127.7 | 126.5 |       |
| DBA    | 182.3 | 188.6 | 190.3 | 190.4 | 193.1 | 196.5 | 195.1 | 197.1 | 201.0 | 202.8 | 203.3 | 199.4 | 190.0 |       |

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OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                  |                      |                        |                      |                   |                   |
|------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH216 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59    | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00       | PAMB HG = 29.50   | RELHUM = 75.7 PCT |
| WIND DIR =       | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =          | LBS XNL =            | RPM XNH =              | RPM V8 = 1637.4 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =         | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1919.8 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-ZER-0401 TAPE = X0401F TEST PT NO = 0401 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0401 X04011

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 58.1 | 63.2 | 65.3 | 66.5 | 68.3 | 69.3 | 79.8 | 73.8 | 75.5 | 79.8 | 82.9 | 83.4 | 79.9 | 158.9 |
| 63    | 59.6 | 63.4 | 65.5 | 67.3 | 68.8 | 70.5 | 72.3 | 73.8 | 76.3 | 79.8 | 83.4 | 83.4 | 79.9 | 158.8 |
| 80    | 59.2 | 64.1 | 66.4 | 67.9 | 69.9 | 70.9 | 71.9 | 74.4 | 75.7 | 80.4 | 82.5 | 82.0 | 78.5 | 158.0 |
| 100   | 60.2 | 64.3 | 67.2 | 68.7 | 70.4 | 72.2 | 73.2 | 75.7 | 77.2 | 80.4 | 81.7 | 79.9 | 76.1 | 157.1 |
| 125   | 64.1 | 64.9 | 68.1 | 68.8 | 70.8 | 71.6 | 73.1 | 75.3 | 77.1 | 80.3 | 79.8 | 77.7 | 72.4 | 155.8 |
| 160   | 62.7 | 68.4 | 68.8 | 70.4 | 71.0 | 72.8 | 74.0 | 75.3 | 77.0 | 79.2 | 78.0 | 74.3 | 69.4 | 154.7 |
| 200   | 62.2 | 68.5 | 69.1 | 71.0 | 72.7 | 73.4 | 74.6 | 75.7 | 78.1 | 77.8 | 76.8 | 72.0 | 66.5 | 154.4 |
| 250   | 62.9 | 67.3 | 69.4 | 70.8 | 72.1 | 73.3 | 74.7 | 76.0 | 77.6 | 77.2 | 74.8 | 69.8 | 63.3 | 153.9 |
| 315   | 62.7 | 68.3 | 70.3 | 71.1 | 72.9 | 74.2 | 75.0 | 77.1 | 79.0 | 78.3 | 74.5 | 70.4 | 63.1 | 155.1 |
| 400   | 62.8 | 68.0 | 70.1 | 71.2 | 73.0 | 75.0 | 76.7 | 77.4 | 78.7 | 78.2 | 75.1 | 71.0 | 64.1 | 155.8 |
| 500   | 62.3 | 67.2 | 70.6 | 71.7 | 73.3 | 75.2 | 76.2 | 78.3 | 80.3 | 78.9 | 76.2 | 72.7 | 65.5 | 157.2 |
| 630   | 64.3 | 68.8 | 71.6 | 72.7 | 74.2 | 76.1 | 77.3 | 79.6 | 81.4 | 80.1 | 78.7 | 75.1 | 67.2 | 159.3 |
| 800   | 64.9 | 69.4 | 73.0 | 74.0 | 75.9 | 77.3 | 79.1 | 80.8 | 81.3 | 81.5 | 80.1 | 76.5 | 68.5 | 161.1 |
| 1000  | 64.6 | 69.7 | 71.8 | 73.3 | 74.3 | 76.1 | 77.1 | 79.3 | 80.8 | 80.3 | 78.5 | 74.7 | 67.3 | 160.5 |
| 1250  | 64.8 | 70.4 | 72.1 | 74.1 | 75.1 | 76.8 | 77.3 | 78.9 | 79.2 | 79.1 | 76.9 | 74.0 | 65.6 | 160.7 |
| 1600  | 64.0 | 67.3 | 71.7 | 73.6 | 74.4 | 76.6 | 76.4 | 77.4 | 77.8 | 75.6 | 73.9 | 71.1 | 61.7 | 160.2 |
| 2000  | 61.4 | 66.4 | 69.6 | 72.3 | 74.1 | 75.1 | 74.9 | 76.1 | 75.8 | 72.8 | 70.6 | 66.7 | 55.7 | 159.8 |
| 2500  | 58.7 | 63.5 | 67.5 | 70.1 | 71.5 | 73.3 | 73.4 | 73.6 | 72.9 | 69.3 | 67.5 | 61.3 | 47.6 | 159.7 |
| 3150  | 52.7 | 59.6 | 63.9 | 67.1 | 69.1 | 70.7 | 71.1 | 70.5 | 69.4 | 65.2 | 61.3 | 54.0 | 35.0 | 160.4 |
| 4000  | 39.9 | 49.3 | 54.1 | 58.8 | 61.2 | 63.2 | 62.3 | 62.5 | 60.6 | 56.2 | 50.4 | 39.6 | 14.5 | 158.5 |
| 5000  | 26.2 | 38.4 | 45.6 | 49.7 | 53.0 | 55.2 | 54.7 | 54.3 | 52.1 | 47.0 | 38.8 | 23.7 |      | 160.0 |
| 6300  | 4.1  | 20.2 | 29.4 | 34.9 | 40.1 | 42.4 | 41.3 | 39.9 | 37.3 | 30.9 | 18.3 |      |      | 161.4 |
| 8000  |      |      | 4.2  | 11.1 | 18.1 | 21.1 | 19.2 | 18.1 | 13.6 | 4.2  |      |      |      | 164.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 168.0 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| ASPL  | 75.2 | 80.0 | 82.5 | 84.0 | 85.5 | 87.1 | 88.6 | 89.7 | 91.0 | 91.5 | 91.5 | 90.0 | 85.7 | 174.1 |
| PNL   | 82.9 | 87.9 | 91.0 | 93.3 | 95.0 | 96.5 | 97.1 | 98.0 | 98.5 | 97.4 | 95.9 | 92.4 | 84.5 |       |
| PNLT  | 82.9 | 87.9 | 91.0 | 93.8 | 95.5 | 96.5 | 97.1 | 98.0 | 98.5 | 98.0 | 95.9 | 92.4 | 84.5 |       |
| DBA   | 72.9 | 77.7 | 80.6 | 82.4 | 83.8 | 85.5 | 86.1 | 87.6 | 88.4 | 87.5 | 85.7 | 82.2 | 74.3 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH216 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1637.4 FPS AE8 = 4.0 SQ IN  
 FNRAHB = LBS XNLR = RPM XNHR = RPM V18 = 1919.8 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0401 TAPE = X04011 TEST PT NO = 0401 NC = AE058 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0403 X0403C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.3 | 78.3 | 75.3 | 78.4 | 77.7 | 78.8 | 75.2 | 80.6  | 81.1  | 75.7  | 83.3  | 87.5  | 88.1  | 123.0 |
| 63    | 88.7 | 87.2 | 79.2 | 86.0 | 88.6 | 85.2 | 83.1 | 87.8  | 85.0  | 83.8  | 83.9  | 89.1  | 92.0  | 128.7 |
| 80    | 82.2 | 86.2 | 83.5 | 84.8 | 84.1 | 85.7 | 86.9 | 86.8  | 87.2  | 87.1  | 88.2  | 91.4  | 93.5  | 129.1 |
| 100   | 82.5 | 88.3 | 84.0 | 85.6 | 87.2 | 87.0 | 86.9 | 89.1  | 88.0  | 90.8  | 92.7  | 95.4  | 97.8  | 131.9 |
| 125   | 79.2 | 83.7 | 85.2 | 86.0 | 87.3 | 88.2 | 88.3 | 89.0  | 88.7  | 92.0  | 96.2  | 99.6  | 100.8 | 134.1 |
| 160   | 81.4 | 78.2 | 82.5 | 82.0 | 84.4 | 84.0 | 89.4 | 86.3  | 87.7  | 92.0  | 97.2  | 100.4 | 103.0 | 134.9 |
| 200   | 82.8 | 81.1 | 81.1 | 82.9 | 84.3 | 85.9 | 88.3 | 89.2  | 91.9  | 93.4  | 97.8  | 102.0 | 104.7 | 136.3 |
| 250   | 80.0 | 84.3 | 84.3 | 84.4 | 84.5 | 86.3 | 88.7 | 90.6  | 92.3  | 97.9  | 103.3 | 105.7 | 106.4 | 139.5 |
| 315   | 82.9 | 84.7 | 83.2 | 85.5 | 87.8 | 88.9 | 91.3 | 91.7  | 94.2  | 99.5  | 103.6 | 107.1 | 107.7 | 140.7 |
| 400   | 80.5 | 84.3 | 85.0 | 85.3 | 87.2 | 87.8 | 97.9 | 92.1  | 95.0  | 101.1 | 105.5 | 108.4 | 107.8 | 142.0 |
| 500   | 81.7 | 84.3 | 85.6 | 86.3 | 86.7 | 88.5 | 90.9 | 92.6  | 96.1  | 101.1 | 105.8 | 108.9 | 107.6 | 142.0 |
| 630   | 81.9 | 84.2 | 86.0 | 87.0 | 88.1 | 89.5 | 90.4 | 93.3  | 95.5  | 101.5 | 104.9 | 107.6 | 106.5 | 141.2 |
| 800   | 82.9 | 85.2 | 87.5 | 88.0 | 88.9 | 90.0 | 91.6 | 94.5  | 96.8  | 101.6 | 104.2 | 104.4 | 103.8 | 139.9 |
| 1000  | 86.4 | 86.7 | 88.2 | 88.0 | 89.6 | 90.2 | 91.9 | 95.0  | 97.5  | 100.8 | 102.7 | 102.4 | 101.0 | 138.7 |
| 1250  | 85.8 | 89.6 | 88.8 | 90.0 | 90.2 | 91.6 | 93.0 | 94.9  | 97.3  | 100.7 | 101.0 | 100.0 | 97.7  | 137.9 |
| 1600  | 85.0 | 89.7 | 88.9 | 90.0 | 91.2 | 92.6 | 93.7 | 95.2  | 97.9  | 99.4  | 100.3 | 97.7  | 95.7  | 137.4 |
| 2000  | 86.0 | 88.4 | 89.3 | 90.7 | 91.1 | 92.2 | 93.9 | 96.2  | 97.3  | 99.4  | 98.4  | 96.2  | 92.5  | 136.9 |
| 2500  | 86.0 | 90.3 | 90.6 | 91.1 | 92.2 | 93.3 | 94.3 | 97.1  | 99.7  | 100.5 | 98.3  | 96.1  | 93.4  | 137.9 |
| 3150  | 87.4 | 90.2 | 90.7 | 91.5 | 92.1 | 94.1 | 95.8 | 98.2  | 99.6  | 100.6 | 99.9  | 97.8  | 95.3  | 138.7 |
| 4000  | 87.1 | 89.5 | 91.8 | 92.3 | 92.9 | 94.9 | 96.3 | 99.4  | 101.2 | 101.7 | 101.4 | 100.2 | 98.2  | 140.1 |
| 5000  | 89.3 | 91.8 | 92.9 | 93.3 | 94.6 | 95.8 | 97.4 | 100.0 | 102.7 | 102.8 | 104.2 | 103.5 | 101.2 | 142.0 |
| 6300  | 90.7 | 92.7 | 94.1 | 94.9 | 96.3 | 97.5 | 99.3 | 101.7 | 103.4 | 105.3 | 106.1 | 105.1 | 103.1 | 143.9 |
| 8000  | 91.0 | 93.4 | 94.2 | 94.7 | 95.1 | 97.1 | 97.8 | 100.4 | 102.4 | 104.2 | 105.5 | 103.7 | 103.1 | 143.4 |
| 10000 | 91.5 | 93.7 | 94.7 | 94.8 | 95.7 | 97.2 | 97.7 | 99.9  | 101.8 | 102.9 | 104.6 | 104.4 | 102.9 | 143.5 |
| 12500 | 91.6 | 91.9 | 94.0 | 94.7 | 95.6 | 97.1 | 97.4 | 98.8  | 100.3 | 100.4 | 102.5 | 102.1 | 101.6 | 142.9 |
| 16000 | 89.7 | 91.6 | 92.2 | 94.1 | 94.8 | 96.0 | 96.3 | 97.6  | 98.9  | 98.2  | 100.7 | 99.8  | 97.4  | 142.6 |
| 20000 | 88.1 | 89.6 | 90.8 | 92.9 | 93.2 | 94.5 | 95.0 | 95.9  | 96.7  | 95.4  | 98.1  | 97.4  | 95.6  | 142.3 |
| 25000 | 86.4 | 88.0 | 89.5 | 90.9 | 92.1 | 93.2 | 93.8 | 94.6  | 95.2  | 94.0  | 95.5  | 94.7  | 91.0  | 143.0 |
| 31500 | 79.5 | 82.8 | 83.8 | 86.1 | 87.2 | 89.0 | 88.8 | 89.6  | 90.3  | 90.2  | 90.8  | 90.2  | 85.2  | 141.4 |
| 40000 | 75.6 | 79.2 | 81.2 | 83.0 | 84.5 | 85.9 | 85.7 | 86.8  | 87.8  | 88.1  | 88.3  | 86.7  | 81.9  | 142.6 |
| 50000 | 71.9 | 75.5 | 77.4 | 78.7 | 81.0 | 83.0 | 82.2 | 83.4  | 85.5  | 86.0  | 86.1  | 84.6  | 78.1  | 144.1 |
| 63000 | 67.5 | 71.8 | 73.5 | 74.1 | 77.0 | 79.4 | 78.4 | 80.9  | 82.5  | 84.3  | 85.8  | 82.7  | 73.9  | 147.0 |
| 80000 | 60.7 | 67.4 | 69.5 | 68.9 | 72.7 | 75.6 | 74.0 | 75.7  | 79.9  | 81.3  | 83.3  | 79.3  | 68.1  | 150.5 |

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OASPL 101.4 103.5 104.3 105.2 106.1 107.5 108.9 110.7 112.6 114.5 116.5 117.5 117.0 157.1

PNL 112.8 115.1 116.0 116.8 117.9 119.2 120.9 123.0 125.0 127.0 128.2 128.1 126.7

PNLT 112.8 115.7 116.0 116.8 117.9 119.2 122.0 123.0 125.0 127.0 128.2 128.1 126.7

DBA 99.1 101.7 102.6 103.2 104.2 105.6 107.1 109.5 111.6 113.4 114.6 114.8 113.5

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH217 TEST DATE = 08-16-82 LOCAT = C41 ECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL PHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1651.6 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1948.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0403 TAPE = X0403C TEST PT NO = 0403 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0403 X0403F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.3  | 78.3  | 75.3  | 78.4  | 77.7  | 78.8  | 75.2  | 80.6  | 81.1  | 75.7  | 83.3  | 87.5  | 88.1  | 123.0 |
| 63    | 88.7  | 87.2  | 79.2  | 86.0  | 88.6  | 85.2  | 83.1  | 87.8  | 85.0  | 83.8  | 83.9  | 89.1  | 92.0  | 128.7 |
| 80    | 82.2  | 86.2  | 83.5  | 84.8  | 84.1  | 85.7  | 86.9  | 86.8  | 87.2  | 87.1  | 88.2  | 91.4  | 93.5  | 129.1 |
| 100   | 82.5  | 88.3  | 84.0  | 85.6  | 87.2  | 87.0  | 86.9  | 89.1  | 88.0  | 90.8  | 92.7  | 95.4  | 97.8  | 131.9 |
| 125   | 79.2  | 83.7  | 85.2  | 86.0  | 87.3  | 88.2  | 88.3  | 89.0  | 88.7  | 92.0  | 96.2  | 99.6  | 100.8 | 134.1 |
| 160   | 81.4  | 78.2  | 82.5  | 82.0  | 84.4  | 84.0  | 89.4  | 86.3  | 87.7  | 92.0  | 97.2  | 100.4 | 103.0 | 134.9 |
| 200   | 82.8  | 81.1  | 81.1  | 82.9  | 84.3  | 85.9  | 88.3  | 89.2  | 91.9  | 93.4  | 97.8  | 102.0 | 104.7 | 136.3 |
| 250   | 80.0  | 84.3  | 84.3  | 84.4  | 84.5  | 86.3  | 88.7  | 90.6  | 92.3  | 97.9  | 103.3 | 105.7 | 106.4 | 139.5 |
| 315   | 82.9  | 84.7  | 83.2  | 85.5  | 87.8  | 88.9  | 91.3  | 91.7  | 94.2  | 99.5  | 103.6 | 107.1 | 107.7 | 140.7 |
| 400   | 80.5  | 84.3  | 85.0  | 85.3  | 87.2  | 87.8  | 97.9  | 92.1  | 95.0  | 101.1 | 105.5 | 108.4 | 107.8 | 142.0 |
| 500   | 81.7  | 84.3  | 85.6  | 86.3  | 86.7  | 88.5  | 90.9  | 92.6  | 96.1  | 101.1 | 105.8 | 108.9 | 107.6 | 142.0 |
| 630   | 81.9  | 84.2  | 86.0  | 87.0  | 88.1  | 89.5  | 90.4  | 93.3  | 95.5  | 101.5 | 104.9 | 107.6 | 106.5 | 141.2 |
| 800   | 82.9  | 85.2  | 87.5  | 88.0  | 88.9  | 90.0  | 91.6  | 94.5  | 96.8  | 101.6 | 104.2 | 104.4 | 103.8 | 139.9 |
| 1000  | 86.4  | 86.7  | 88.2  | 88.0  | 89.6  | 90.2  | 91.9  | 95.0  | 97.5  | 100.8 | 102.7 | 102.4 | 101.0 | 138.7 |
| 1250  | 85.8  | 89.6  | 88.8  | 90.0  | 90.2  | 91.6  | 93.0  | 94.9  | 97.3  | 100.7 | 101.0 | 100.0 | 97.7  | 137.9 |
| 1600  | 85.0  | 89.7  | 88.9  | 90.0  | 91.2  | 92.6  | 93.7  | 95.2  | 97.9  | 99.4  | 100.3 | 97.7  | 95.7  | 137.4 |
| 2000  | 86.0  | 88.4  | 89.3  | 90.7  | 91.1  | 92.2  | 93.9  | 96.2  | 97.3  | 99.4  | 98.4  | 96.2  | 92.5  | 136.9 |
| 2500  | 86.0  | 90.3  | 90.6  | 91.1  | 92.2  | 93.3  | 94.3  | 97.1  | 99.7  | 100.5 | 98.3  | 96.1  | 93.4  | 137.9 |
| 3150  | 87.4  | 90.2  | 90.7  | 91.5  | 92.1  | 94.1  | 95.8  | 98.2  | 99.6  | 100.6 | 99.9  | 97.8  | 95.3  | 138.7 |
| 4000  | 87.1  | 89.5  | 91.8  | 92.3  | 92.9  | 94.9  | 96.3  | 99.4  | 101.2 | 101.7 | 101.4 | 100.2 | 98.2  | 140.1 |
| 5000  | 89.3  | 91.8  | 92.9  | 93.3  | 94.6  | 95.8  | 97.4  | 100.0 | 102.7 | 102.8 | 104.2 | 103.5 | 101.2 | 142.0 |
| 6300  | 90.7  | 92.7  | 94.1  | 94.9  | 96.3  | 97.5  | 99.3  | 101.7 | 103.4 | 105.3 | 106.1 | 105.1 | 103.1 | 143.9 |
| 8000  | 91.0  | 93.4  | 94.2  | 94.7  | 95.1  | 97.1  | 97.8  | 100.4 | 102.4 | 104.2 | 105.5 | 103.7 | 103.1 | 143.4 |
| 10000 | 91.5  | 93.7  | 94.7  | 94.8  | 95.7  | 97.2  | 97.7  | 99.9  | 101.8 | 102.9 | 104.6 | 104.4 | 102.9 | 143.5 |
| 12500 | 91.6  | 91.9  | 94.0  | 94.7  | 95.6  | 97.1  | 97.4  | 98.8  | 100.3 | 100.4 | 102.5 | 102.1 | 101.6 | 142.9 |
| 16000 | 89.7  | 91.6  | 92.2  | 94.1  | 94.8  | 96.0  | 96.3  | 97.6  | 98.9  | 98.2  | 100.7 | 99.8  | 97.4  | 142.6 |
| 20000 | 88.1  | 89.6  | 90.8  | 92.9  | 93.2  | 94.5  | 95.0  | 95.9  | 96.7  | 95.4  | 98.1  | 97.4  | 95.6  | 142.3 |
| 25000 | 86.4  | 88.0  | 89.5  | 90.9  | 92.1  | 93.2  | 93.8  | 94.6  | 95.2  | 94.0  | 95.5  | 94.7  | 91.0  | 143.0 |
| 31500 | 79.5  | 82.8  | 83.8  | 86.1  | 87.2  | 89.0  | 88.8  | 89.6  | 90.3  | 90.2  | 90.8  | 90.2  | 85.2  | 141.4 |
| 40000 | 75.6  | 79.2  | 81.2  | 83.0  | 84.5  | 85.9  | 85.7  | 86.8  | 87.8  | 88.1  | 88.3  | 86.7  | 81.9  | 142.6 |
| 50000 | 71.9  | 75.5  | 77.4  | 78.7  | 81.0  | 83.0  | 82.2  | 83.4  | 85.5  | 86.0  | 86.1  | 84.6  | 78.1  | 144.1 |
| 63000 | 67.5  | 71.8  | 73.5  | 74.1  | 77.0  | 79.4  | 78.4  | 80.9  | 82.5  | 84.3  | 85.8  | 82.7  | 73.9  | 147.0 |
| 80000 | 60.7  | 67.4  | 69.5  | 68.9  | 72.7  | 75.6  | 74.0  | 75.7  | 79.9  | 81.3  | 83.3  | 79.3  | 68.1  | 150.5 |
| CASPL | 101.4 | 103.5 | 104.3 | 105.2 | 106.1 | 107.5 | 108.9 | 110.7 | 112.6 | 114.5 | 116.5 | 117.5 | 117.0 | 157.1 |
| PNL   | 112.8 | 115.1 | 116.0 | 116.8 | 117.9 | 119.2 | 120.9 | 123.0 | 125.0 | 127.0 | 128.2 | 128.1 | 126.7 |       |
| PNLT  | 112.8 | 115.7 | 116.0 | 116.8 | 117.9 | 119.2 | 122.0 | 123.0 | 125.0 | 127.0 | 128.2 | 128.1 | 126.7 |       |
| DBA   | 182.9 | 188.8 | 190.7 | 190.5 | 194.0 | 196.8 | 195.3 | 197.2 | 200.8 | 202.2 | 204.1 | 200.3 | 189.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH217 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.6 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1948.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0403 TAPE = X0403F TEST PT NO = 0403 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0403 X04031

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 58.6 | 64.0 | 65.8 | 66.8 | 69.0 | 69.8 | 79.8 | 73.5 | 75.8 | 80.8 | 83.6 | 84.4 | 80.4 | 159.6 |
| 63    | 59.9 | 63.9 | 66.3 | 67.8 | 68.5 | 70.5 | 72.8 | 74.0 | 76.8 | 80.8 | 83.9 | 84.9 | 80.2 | 159.6 |
| 80    | 60.0 | 63.8 | 66.7 | 68.4 | 69.9 | 71.4 | 72.2 | 74.7 | 76.2 | 81.2 | 83.0 | 83.5 | 79.0 | 158.8 |
| 100   | 60.9 | 64.8 | 68.2 | 69.4 | 70.7 | 71.9 | 73.4 | 75.9 | 77.4 | 81.1 | 82.2 | 80.1 | 76.1 | 157.4 |
| 125   | 64.3 | 66.2 | 68.8 | 69.3 | 71.3 | 72.1 | 73.6 | 76.3 | 78.1 | 80.3 | 80.6 | 78.0 | 73.1 | 156.3 |
| 160   | 63.5 | 68.9 | 69.3 | 71.1 | 71.8 | 73.3 | 74.5 | 76.0 | 77.8 | 80.0 | 78.7 | 75.3 | 69.4 | 155.5 |
| 200   | 62.5 | 68.8 | 69.1 | 71.0 | 72.7 | 74.2 | 75.1 | 76.2 | 78.1 | 78.5 | 77.8 | 72.8 | 67.0 | 155.0 |
| 250   | 63.1 | 67.3 | 69.4 | 71.5 | 72.3 | 73.6 | 75.2 | 77.0 | 77.4 | 78.2 | 75.5 | 70.8 | 63.1 | 154.5 |
| 315   | 62.7 | 68.8 | 70.3 | 71.6 | 73.2 | 74.4 | 75.2 | 77.6 | 79.5 | 79.0 | 75.0 | 70.2 | 63.1 | 155.5 |
| 400   | 63.6 | 68.3 | 70.1 | 71.7 | 72.7 | 75.0 | 76.4 | 78.4 | 78.9 | 78.7 | 76.1 | 71.2 | 64.1 | 156.2 |
| 500   | 62.8 | 67.2 | 70.9 | 72.2 | 73.3 | 75.5 | 76.7 | 79.3 | 80.3 | 79.4 | 77.2 | 73.0 | 66.0 | 157.7 |
| 630   | 64.5 | 69.1 | 71.6 | 72.9 | 74.7 | 76.1 | 77.6 | 79.6 | 81.4 | 80.1 | 79.4 | 75.6 | 68.0 | 159.6 |
| 800   | 65.4 | 69.7 | 72.5 | 74.3 | 76.1 | 77.5 | 79.1 | 81.0 | 81.8 | 82.2 | 80.8 | 76.5 | 68.7 | 161.5 |
| 1000  | 65.3 | 70.0 | 72.3 | 73.8 | 74.8 | 77.1 | 77.6 | 79.6 | 80.5 | 80.8 | 79.8 | 74.4 | 67.6 | 161.0 |
| 1250  | 65.3 | 69.9 | 72.6 | 73.8 | 75.3 | 77.0 | 77.3 | 78.9 | 79.7 | 79.1 | 78.4 | 74.2 | 65.9 | 161.1 |
| 1600  | 64.5 | 67.6 | 71.5 | 73.4 | 74.9 | 76.6 | 76.7 | 77.4 | 77.8 | 76.1 | 75.4 | 70.6 | 62.2 | 160.4 |
| 2000  | 61.7 | 66.7 | 69.4 | 72.6 | 73.9 | 75.4 | 75.4 | 76.1 | 76.0 | 73.3 | 72.6 | 66.7 | 55.0 | 160.2 |
| 2500  | 58.2 | 63.5 | 67.0 | 70.6 | 71.8 | 73.3 | 73.6 | 73.6 | 72.9 | 69.3 | 68.3 | 61.5 | 48.3 | 159.9 |
| 3150  | 53.2 | 59.4 | 63.9 | 67.1 | 69.3 | 70.7 | 71.1 | 70.8 | 69.6 | 65.4 | 62.3 | 53.8 | 35.3 | 160.6 |
| 4000  | 40.1 | 49.5 | 54.4 | 59.0 | 61.4 | 63.7 | 63.0 | 62.5 | 60.9 | 56.9 | 51.4 | 40.3 | 15.0 | 159.0 |
| 5000  | 26.4 | 38.4 | 45.6 | 50.5 | 53.8 | 55.7 | 55.0 | 54.3 | 52.1 | 47.3 | 39.1 | 23.2 |      | 160.2 |
| 6300  | 4.9  | 20.4 | 29.6 | 35.4 | 40.1 | 42.9 | 41.3 | 40.1 | 37.8 | 30.9 | 19.1 |      |      | 161.7 |
| 8000  |      |      | 4.4  | 11.6 | 18.1 | 21.6 | 19.4 | 18.3 | 13.4 | 4.4  |      |      |      | 164.6 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 168.1 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| CASPL | 75.7 | 80.2 | 82.6 | 84.3 | 85.8 | 87.4 | 88.8 | 90.1 | 91.2 | 92.1 | 92.3 | 90.9 | 86.1 | 174.4 |
| PNL   | 83.3 | 88.1 | 91.0 | 93.6 | 95.0 | 96.7 | 97.3 | 98.3 | 98.7 | 97.9 | 96.9 | 92.6 | 84.8 |       |
| PNLT  | 83.3 | 88.1 | 91.5 | 93.6 | 95.0 | 96.7 | 97.3 | 98.3 | 99.2 | 98.5 | 96.9 | 92.6 | 84.8 |       |
| DBA   | 73.3 | 77.8 | 80.6 | 82.6 | 84.0 | 85.7 | 86.4 | 87.8 | 88.6 | 87.9 | 86.8 | 82.2 | 74.7 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH217 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.50 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.6 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1948.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0403 TAPE = X04031 TEST PT NO = 0403 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0404 X0404C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140. | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|-------|------|-------|-------|-------|
| 50    |      | 77.8 | 73.8 | 73.9 |      | 74.4 | 76.9 |      | 79.3  | 79.5  | 85.6 | 86.5  |       | 120.8 |
| 63    |      |      |      |      |      |      | 84.9 |      | 81.6  |       | 85.0 | 83.6  |       | 120.7 |
| 80    | 81.2 | 85.4 | 81.6 | 82.6 | 83.1 | 83.6 | 85.5 | 85.9 | 86.9  |       | 86.7 | 89.4  | 93.4  | 127.6 |
| 100   | 80.8 | 86.0 | 81.8 | 83.0 | 84.8 | 84.4 | 85.7 | 87.3 | 86.0  | 87.1  | 89.9 | 93.3  | 97.3  | 130.0 |
| 125   | 78.2 | 81.3 | 82.9 | 83.8 | 84.9 | 85.3 | 86.3 | 86.3 | 86.3  | 88.4  | 92.8 | 97.5  | 99.8  | 132.0 |
| 160   | 78.1 | 75.4 | 80.0 | 80.5 | 80.8 | 79.4 | 87.2 | 82.3 | 84.0  | 88.0  | 93.6 | 97.1  | 100.9 | 132.0 |
| 200   |      | 77.0 | 77.9 | 79.0 | 79.3 | 80.9 | 84.7 | 85.1 | 88.0  | 89.1  | 93.8 | 99.0  | 101.8 | 133.0 |
| 250   | 74.6 | 78.8 | 78.3 | 79.1 | 80.0 | 81.4 | 84.7 | 85.9 | 87.7  | 92.8  | 99.0 | 102.0 | 102.3 | 135.4 |
| 315   |      |      |      | 78.6 | 80.2 | 82.3 | 87.5 | 86.6 | 89.1  | 94.1  | 98.4 | 102.3 | 102.2 | 135.5 |
| 400   | 75.3 | 78.6 | 79.2 | 80.4 | 81.6 | 81.7 | 83.6 | 86.9 | 90.0  | 95.3  | 99.7 | 102.4 | 100.3 | 136.0 |
| 500   | 77.0 | 79.1 | 79.6 | 80.6 | 81.7 | 83.1 | 85.5 | 87.2 | 90.8  | 96.1  | 99.7 | 101.7 | 97.0  | 135.1 |
| 630   | 76.1 | 79.0 | 80.5 | 81.6 | 82.7 | 83.8 | 85.7 | 88.2 | 90.4  | 96.3  | 98.4 | 99.4  | 93.6  | 133.9 |
| 800   | 77.0 | 79.9 | 80.9 | 81.9 | 83.0 | 84.6 | 86.5 | 89.0 | 91.5  | 96.1  | 97.9 | 95.9  | 88.7  | 133.0 |
| 1000  | 79.9 | 79.9 | 81.4 | 82.7 | 84.0 | 85.4 | 87.3 | 89.7 | 92.2  | 95.8  | 96.4 | 93.4  | 86.3  | 132.3 |
| 1250  | 80.7 | 83.5 | 83.3 | 84.2 | 85.1 | 86.5 | 88.4 | 90.1 | 92.8  | 95.9  | 95.0 | 89.9  | 84.2  | 132.1 |
| 1600  | 82.3 | 84.4 | 85.8 | 86.3 | 86.7 | 87.8 | 89.9 | 92.0 | 94.4  | 95.2  | 95.1 | 87.2  | 83.2  | 132.7 |
| 2000  | 84.0 | 83.7 | 85.6 | 86.3 | 87.0 | 88.1 | 90.4 | 91.7 | 93.8  | 94.9  | 93.1 | 85.4  | 82.1  | 132.3 |
| 2500  | 84.5 | 85.0 | 85.6 | 86.9 | 88.2 | 89.5 | 91.0 | 93.9 | 95.7  | 96.5  | 92.8 | 85.3  | 81.8  | 133.7 |
| 3150  | 85.6 | 86.2 | 86.9 | 87.3 | 88.8 | 91.1 | 93.2 | 94.2 | 95.3  | 97.1  | 93.1 | 85.0  | 81.0  | 134.3 |
| 4000  | 86.1 | 86.2 | 87.6 | 88.9 | 90.2 | 91.6 | 93.3 | 96.1 | 97.0  | 98.2  | 93.9 | 86.0  | 81.8  | 135.5 |
| 5000  | 86.8 | 88.5 | 90.2 | 90.6 | 91.1 | 93.3 | 94.7 | 96.8 | 99.3  | 98.8  | 95.9 | 88.0  | 83.4  | 137.1 |
| 6300  | 88.2 | 89.5 | 91.1 | 92.2 | 93.2 | 94.2 | 96.5 | 98.4 | 99.7  | 100.5 | 97.6 | 91.4  | 85.6  | 138.7 |
| 8000  | 87.3 | 90.4 | 91.2 | 92.1 | 93.1 | 94.4 | 95.8 | 98.2 | 100.1 | 101.2 | 99.0 | 92.2  | 87.1  | 139.4 |
| 10000 | 87.8 | 91.0 | 92.5 | 93.4 | 94.2 | 95.7 | 96.2 | 98.4 | 99.6  | 101.9 | 99.4 | 94.4  | 88.2  | 140.5 |
| 12500 | 87.4 | 89.2 | 91.3 | 92.4 | 93.6 | 95.3 | 95.7 | 97.3 | 98.9  | 98.8  | 98.0 | 93.1  | 88.6  | 139.9 |
| 16000 | 86.6 | 89.4 | 89.9 | 91.6 | 93.3 | 93.8 | 95.1 | 96.7 | 97.5  | 97.3  | 95.8 | 91.9  | 86.7  | 140.2 |
| 20000 | 85.7 | 88.0 | 88.9 | 90.2 | 91.6 | 93.4 | 94.7 | 94.5 | 95.3  | 93.8  | 93.5 | 89.1  | 85.0  | 140.1 |
| 25000 | 83.8 | 86.7 | 87.7 | 89.1 | 90.5 | 92.2 | 93.3 | 93.8 | 94.5  | 92.5  | 90.3 | 87.4  | 82.1  | 141.2 |
| 31500 | 78.1 | 81.9 | 83.2 | 84.5 | 85.7 | 88.3 | 88.3 | 88.9 | 89.9  | 88.1  | 85.7 | 82.0  | 75.7  | 139.8 |
| 40000 | 74.3 | 78.5 | 80.2 | 82.1 | 84.0 | 85.3 | 85.4 | 86.5 | 87.0  | 84.2  | 82.0 | 78.4  | 72.0  | 140.9 |
| 50000 | 70.2 | 73.7 | 75.4 | 77.6 | 79.8 | 81.5 | 81.5 | 82.3 | 83.2  | 81.2  | 77.2 | 74.4  | 67.4  | 141.3 |
| 63000 | 64.7 | 69.3 | 71.2 | 73.2 | 74.7 | 77.6 | 76.8 | 78.9 | 79.8  | 77.7  | 74.3 | 69.6  | 62.0  | 142.7 |
| 80000 | 56.6 | 65.0 | 63.6 | 67.5 | 68.9 | 72.1 | 71.5 | 72.8 | 74.0  | 74.2  | 68.6 | 62.2  | 52.7  | 144.1 |

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SASPL 98.0 100.2 101.2 102.3 103.4 104.8 106.4 107.9 109.4 110.7 110.6 110.7 110.1 152.9  
PNL 109.2 111.0 112.2 113.3 114.3 115.6 117.9 119.4 121.4 122.6 121.4 118.4 116.0  
PNLT 115.9 117.7 118.8 113.3 114.3 116.1 119.1 119.4 121.4 129.2 121.4 118.4 116.0  
DBA 96.2 97.8 99.0 99.9 100.9 102.3 104.2 106.1 107.9 109.4 108.1 105.9 102.8

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH226 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1645.6 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1991.6 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-0404 TAPE = X0404C TEST PT NO = 0404 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0404 X0404F

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                       | 40.        | 50.   | 60.   | 70.   | 80.       | 90.        | 100.  | 110.  | 120.     | 130.           | 140.  | 150.  | 160.       | PWL          |  |         |              |  |        |            |  |
|-----------------------------------------------------------------------------------------------------------------------|------------|-------|-------|-------|-----------|------------|-------|-------|----------|----------------|-------|-------|------------|--------------|--|---------|--------------|--|--------|------------|--|
| FREQ                                                                                                                  |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 50                                                                                                                    |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 63                                                                                                                    |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 80                                                                                                                    |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 100                                                                                                                   |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 125                                                                                                                   |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 160                                                                                                                   |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 200                                                                                                                   |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| 250                                                                                                                   | 81.6       | 84.7  | 82.8  | 82.2  | 81.5      | 81.4       | 82.8  | 82.3  | 85.6     | 89.8           | 93.5  | 97.9  | 99.6       | 131.9        |  |         |              |  |        |            |  |
| 315                                                                                                                   | 81.6       | 84.7  | 82.8  | 82.2  | 81.9      | 82.5       | 86.1  | 83.8  | 86.7     | 91.2           | 95.2  | 98.7  | 99.1       | 132.6        |  |         |              |  |        |            |  |
| 400                                                                                                                   | 82.5       | 85.0  | 83.6  | 82.0  | 83.4      | 81.9       | 92.3  | 84.2  | 88.0     | 92.5           | 95.9  | 99.0  | 97.6       | 133.2        |  |         |              |  |        |            |  |
| 500                                                                                                                   | 83.0       | 85.0  | 84.2  | 83.8  | 83.6      | 83.4       | 84.6  | 84.8  | 88.7     | 93.8           | 95.9  | 98.5  | 97.1       | 132.8        |  |         |              |  |        |            |  |
| 630                                                                                                                   | 84.6       | 85.5  | 84.6  | 84.0  | 84.6      | 84.2       | 85.0  | 86.3  | 90.8     | 95.2           | 97.5  | 98.1  | 96.8       | 133.5        |  |         |              |  |        |            |  |
| 800                                                                                                                   | 83.7       | 85.5  | 85.6  | 85.1  | 85.0      | 85.1       | 86.0  | 87.5  | 92.0     | 95.4           | 96.7  | 96.9  | 97.0       | 133.4        |  |         |              |  |        |            |  |
| 1000                                                                                                                  | 84.6       | 86.3  | 85.9  | 85.5  | 86.2      | 86.0       | 86.9  | 88.4  | 92.1     | 95.1           | 95.0  | 93.3  | 95.0       | 132.5        |  |         |              |  |        |            |  |
| 1250                                                                                                                  | 87.5       | 86.4  | 86.5  | 86.3  | 87.4      | 87.3       | 87.9  | 88.5  | 93.9     | 94.5           | 95.1  | 90.7  | 94.3       | 132.7        |  |         |              |  |        |            |  |
| 1600                                                                                                                  | 88.1       | 89.8  | 88.3  | 87.9  | 89.1      | 88.8       | 89.9  | 90.7  | 93.9     | 94.7           | 93.6  | 89.5  | 93.7       | 133.2        |  |         |              |  |        |            |  |
| 2000                                                                                                                  | 89.9       | 90.9  | 91.1  | 90.1  | 89.7      | 89.4       | 90.9  | 90.9  | 96.0     | 96.4           | 93.3  | 89.3  | 93.7       | 134.4        |  |         |              |  |        |            |  |
| 2500                                                                                                                  | 91.6       | 90.2  | 90.9  | 90.3  | 91.1      | 91.1       | 91.8  | 93.3  | 95.6     | 97.0           | 93.4  | 88.4  | 91.5       | 134.9        |  |         |              |  |        |            |  |
| 3150                                                                                                                  | 92.1       | 91.6  | 91.0  | 91.0  | 92.0      | 93.1       | 94.1  | 93.8  | 98.0     | 98.6           | 94.7  | 89.7  | 92.5       | 136.4        |  |         |              |  |        |            |  |
| 4000                                                                                                                  | 93.2       | 92.8  | 92.5  | 92.2  | 93.8      | 94.2       | 94.8  | 96.3  | 100.3    | 99.3           | 96.7  | 91.8  | 94.1       | 138.1        |  |         |              |  |        |            |  |
| 5000                                                                                                                  | 93.6       | 92.9  | 93.3  | 93.5  | 95.1      | 96.3       | 96.5  | 97.1  | 101.1    | 101.6          | 99.1  | 96.3  | 98.2       | 139.8        |  |         |              |  |        |            |  |
| 6300                                                                                                                  | 94.2       | 95.2  | 95.0  | 95.5  | 97.3      | 97.2       | 98.5  | 99.1  | 101.8    | 102.4          | 100.8 | 97.4  | 100.0      | 141.4        |  |         |              |  |        |            |  |
| 8000                                                                                                                  | 95.5       | 96.1  | 96.8  | 96.9  | 97.1      | 97.4       | 97.9  | 98.8  | 101.5    | 103.5          | 101.6 | 100.1 | 101.4      | 142.4        |  |         |              |  |        |            |  |
| 10000                                                                                                                 | 94.4       | 96.8  | 96.7  | 96.7  | 98.2      | 98.7       | 98.3  | 99.1  | 102.2    | 101.9          | 101.9 | 100.2 | 102.9      | 143.1        |  |         |              |  |        |            |  |
| 12500                                                                                                                 | 94.6       | 97.1  | 97.7  | 97.6  | 97.6      | 98.3       | 98.0  | 98.8  | 101.4    | 101.1          | 100.2 | 99.7  | 101.7      | 143.5        |  |         |              |  |        |            |  |
| 16000                                                                                                                 | 93.7       | 94.8  | 95.0  | 96.2  | 97.4      | 96.8       | 97.5  | 98.3  | 100.2    | 98.5           | 98.6  | 97.0  | 99.8       | 143.4        |  |         |              |  |        |            |  |
| 20000                                                                                                                 | 92.5       | 94.6  | 94.2  | 94.9  | 95.6      | 96.4       | 97.2  | 96.4  | 100.0    | 98.1           | 96.6  | 97.0  | 98.8       | 144.3        |  |         |              |  |        |            |  |
| 25000                                                                                                                 | 91.0       | 92.6  | 92.6  | 93.0  | 94.6      | 95.2       | 95.8  | 95.7  | 95.9     | 94.0           | 92.4  | 92.2  | 93.6       | 144.2        |  |         |              |  |        |            |  |
| 31500                                                                                                                 | 88.4       | 90.5  | 90.6  | 91.1  | 90.3      | 91.3       | 90.7  | 90.6  | 93.7     | 90.9           | 89.5  | 89.5  | 90.8       | 144.0        |  |         |              |  |        |            |  |
| 40000                                                                                                                 | 84.6       | 87.1  | 87.0  | 86.7  | 88.6      | 88.3       | 87.7  | 88.1  | 89.7     | 87.6           | 84.3  | 85.1  | 85.9       | 144.6        |  |         |              |  |        |            |  |
| 50000                                                                                                                 | 80.4       | 83.3  | 83.6  | 83.9  | 84.4      | 84.5       | 83.7  | 83.5  | 86.4     | 83.8           | 80.7  | 79.0  | 78.4       | 145.1        |  |         |              |  |        |            |  |
| 63000                                                                                                                 | 75.3       | 77.6  | 77.9  | 78.5  | 79.3      | 80.6       | 78.7  | 79.5  | 82.1     | 81.8           | 76.4  | 73.1  | 70.4       | 145.9        |  |         |              |  |        |            |  |
| 80000                                                                                                                 | 68.3       | 71.7  | 72.2  | 72.6  | 73.5      | 75.1       | 73.4  | 73.4  | 72.3     | 72.0           | 66.6  | 63.3  | 60.6       | 145.9        |  |         |              |  |        |            |  |
| OASPL                                                                                                                 | 104.7      | 105.8 | 106.1 | 106.0 | 107.0     | 107.3      | 107.9 | 108.3 | 111.4    | 111.7          | 110.8 | 110.0 | 111.5      | 155.5        |  |         |              |  |        |            |  |
| PNL                                                                                                                   | 115.5      | 115.9 | 116.1 | 115.7 | 117.0     | 117.1      | 118.3 | 118.7 | 122.2    | 123.0          | 121.7 | 119.3 | 121.3      |              |  |         |              |  |        |            |  |
| PNLT                                                                                                                  | 115.5      | 115.9 | 116.1 | 115.7 | 117.0     | 117.1      | 119.4 | 118.7 | 122.2    | 123.0          | 121.7 | 119.3 | 121.3      |              |  |         |              |  |        |            |  |
| DBA                                                                                                                   | 190.7      | 193.7 | 194.1 | 194.5 | 195.4     | 196.8      | 195.1 | 195.3 | 195.9    | 195.3          | 190.2 | 187.3 | 185.4      |              |  |         |              |  |        |            |  |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166                                                           |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |
| VEHICL                                                                                                                | = ADH226   |       |       |       | TEST DATE | = 08-17-82 |       |       | LOCAT    | = C41 ANECH CH |       |       | CONFIG     | = 4          |  | MODEL   | = AX         |  | FLTVEL | = 400. FPS |  |
| IAPLHA                                                                                                                | = SB59     |       |       |       | IEGA      | = NO       |       |       | PWL AREA | = FULL SPHERE  |       |       | TAMB F     | = 83.00      |  | PAMB HG | = 29.50      |  | RELHUM | = 65.9 PCT |  |
| WIND DIR                                                                                                              | = DEG      |       |       |       | WIND VEL  | = MPH      |       |       | EXT DIST | = 40.0 FT      |       |       | EXT CONFIG | = ARC        |  | MIKE HT | =            |  | NBFR   | =          |  |
| FNINI                                                                                                                 | = LBS XNL  |       |       |       | =         | RPM        |       |       | XNH      | = RPM          |       |       | V8         | = 1645.6 FPS |  | AE8     | = 4.0 SQ IN  |  |        |            |  |
| FNRAMB                                                                                                                | = LBS XNLR |       |       |       | =         | RPM        |       |       | XNHR     | = RPM          |       |       | V18        | = 1991.6 FPS |  | AE18    | = 20.4 SQ IN |  |        |            |  |
| RUNPT = 82F-400-0404 TAPE = X0404F TEST PT NO = 0404 NC = AEC58 CORR FAN SPEED = RPM                                  |            |       |       |       |           |            |       |       |          |                |       |       |            |              |  |         |              |  |        |            |  |

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P1185-03

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0404 X04041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 60.6 | 64.7 | 64.4 | 63.4 | 65.3 | 63.9 | 74.2 | 65.6 | 68.8 | 72.2 | 74.1 | 75.0 | 70.3 | 150.8 |
| 63    | 61.1 | 64.7 | 64.9 | 65.2 | 65.5 | 65.4 | 66.4 | 66.2 | 69.4 | 73.5 | 74.0 | 74.4 | 69.6 | 150.4 |
| 80    | 62.7 | 65.1 | 65.3 | 65.5 | 66.5 | 66.2 | 66.9 | 67.8 | 71.5 | 74.8 | 75.6 | 73.9 | 69.3 | 151.1 |
| 100   | 61.7 | 65.0 | 66.2 | 66.4 | 66.8 | 67.0 | 67.8 | 68.9 | 72.6 | 75.0 | 74.7 | 72.6 | 69.3 | 151.0 |
| 125   | 62.5 | 65.8 | 66.5 | 66.8 | 67.9 | 67.9 | 68.6 | 69.7 | 72.7 | 74.5 | 72.8 | 68.9 | 67.1 | 150.1 |
| 160   | 65.2 | 65.7 | 66.9 | 67.5 | 69.0 | 69.0 | 69.5 | 69.6 | 74.3 | 73.8 | 72.8 | 66.1 | 66.0 | 150.3 |
| 200   | 65.5 | 68.9 | 68.5 | 68.9 | 70.6 | 70.4 | 71.4 | 71.7 | 74.1 | 73.8 | 71.1 | 64.5 | 65.0 | 150.8 |
| 250   | 67.0 | 69.8 | 71.1 | 70.9 | 70.9 | 70.8 | 72.1 | 71.7 | 76.0 | 75.2 | 70.4 | 63.9 | 64.3 | 152.0 |
| 315   | 68.3 | 68.7 | 70.6 | 70.8 | 72.1 | 72.3 | 72.7 | 73.9 | 75.3 | 75.5 | 70.1 | 62.4 | 61.2 | 152.5 |
| 400   | 68.3 | 69.7 | 70.4 | 71.2 | 72.7 | 73.9 | 74.8 | 74.0 | 77.3 | 76.7 | 70.9 | 63.1 | 61.3 | 154.0 |
| 500   | 68.9 | 70.5 | 71.5 | 72.1 | 74.2 | 74.7 | 75.2 | 76.2 | 79.3 | 77.0 | 72.5 | 64.5 | 61.9 | 155.7 |
| 630   | 68.8 | 70.2 | 72.0 | 73.1 | 75.2 | 76.6 | 76.6 | 76.7 | 79.8 | 78.9 | 74.4 | 68.3 | 64.9 | 157.4 |
| 800   | 69.0 | 72.2 | 74.4 | 74.8 | 77.2 | 77.3 | 78.4 | 78.4 | 80.1 | 79.3 | 75.5 | 68.8 | 65.5 | 159.0 |
| 1000  | 69.8 | 72.7 | 74.9 | 76.0 | 76.9 | 77.3 | 77.6 | 78.0 | 79.7 | 80.1 | 75.9 | 70.8 | 65.8 | 160.0 |
| 1250  | 68.2 | 73.1 | 74.6 | 75.7 | 77.9 | 78.5 | 77.9 | 78.1 | 80.1 | 78.2 | 75.6 | 70.1 | 65.9 | 160.7 |
| 1600  | 67.6 | 72.8 | 75.2 | 76.3 | 76.9 | 77.9 | 77.3 | 77.5 | 78.9 | 76.8 | 73.2 | 68.2 | 62.3 | 161.0 |
| 2000  | 65.6 | 69.9 | 73.1 | 74.6 | 76.5 | 76.2 | 76.7 | 76.7 | 77.3 | 73.6 | 70.5 | 63.9 | 57.4 | 161.0 |
| 2500  | 62.7 | 68.5 | 70.4 | 72.7 | 74.2 | 75.2 | 75.7 | 74.2 | 76.3 | 72.0 | 66.7 | 61.1 | 51.6 | 161.9 |
| 3150  | 57.8 | 64.1 | 67.0 | 69.2 | 71.8 | 72.7 | 73.0 | 71.9 | 70.2 | 65.4 | 59.1 | 51.3 | 37.9 | 161.8 |
| 4000  | 48.9 | 57.2 | 61.2 | 64.0 | 64.6 | 66.0 | 65.0 | 63.5 | 64.3 | 57.6 | 50.1 | 39.7 | 20.7 | 161.6 |
| 5000  | 35.4 | 46.3 | 51.3 | 54.2 | 57.8 | 58.1 | 57.0 | 55.6 | 54.0 | 46.8 | 35.1 | 21.6 |      | 162.2 |
| 6300  | 13.4 | 28.3 | 35.9 | 40.6 | 43.5 | 44.5 | 42.8 | 40.2 | 38.6 | 28.7 | 13.7 |      |      | 162.7 |
| 8000  |      |      | 8.8  | 16.0 | 20.3 | 22.8 | 19.7 | 17.0 | 13.0 | 1.9  |      |      |      | 163.5 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 163.5 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| ASPL  | 79.3 | 82.3 | 84.0 | 85.0 | 86.5 | 87.1 | 87.5 | 87.4 | 89.6 | 88.8 | 86.0 | 82.4 | 78.6 | 173.1 |
| PNL   | 87.1 | 91.4 | 93.6 | 94.9 | 96.6 | 97.2 | 97.6 | 97.1 | 98.8 | 96.5 | 92.7 | 87.2 | 82.2 |       |
| PNLT  | 87.1 | 91.4 | 94.2 | 95.5 | 96.6 | 97.2 | 97.6 | 97.1 | 99.4 | 96.5 | 92.7 | 87.2 | 82.2 |       |
| DBA   | 77.2 | 81.0 | 83.1 | 84.3 | 85.9 | 86.5 | 86.6 | 86.6 | 88.3 | 86.8 | 82.9 | 77.1 | 72.8 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ DIFF = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|          |   |              |           |   |          |            |   |              |            |   |            |                |   |            |        |   |          |
|----------|---|--------------|-----------|---|----------|------------|---|--------------|------------|---|------------|----------------|---|------------|--------|---|----------|
| VEHICL   | = | ADH226       | TEST DATE | = | 08-17-82 | LOCAT      | = | C41 ANECH CH | CONFIG     | = | 4          | MODEL          | = | AX         | FLTVEL | = | 400. FPS |
| IAPLHA   | = | SB59         | IEGA      | = | NO       | PWL AREA   | = | FULL SPHERE  | TAMB F     | = | 83.00      | PAMB HG        | = | 29.50      | RELHUM | = | 65.9 PCT |
| WIND DIR | = |              | WIND VEL  | = | MPH      | EXT DIST   | = | 2400.0 FT    | EXT CONFIG | = | SL         | MIKE HT        | = |            | NBFR   | = |          |
| FNIN1    | = | LBS          | XNL       | = | RPM      | XNH        | = | RPM          | V8         | = | 1645.6 FPS | AE8            | = | 4.0 SQ IN  |        |   |          |
| FNRAMB   | = | LBS          | XNLR      | = | RPM      | XNHR       | = | RPM          | V18        | = | 1991.6 FPS | AE18           | = | 20.4 SQ IN |        |   |          |
| RUNPT    | = | 82F-400-0404 | TAPE      | = | X04041   | TEST PT NO | = | 0404         | NC         | = | AE058      | CORR FAN SPEED | = |            | RPM    |   |          |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0405 X0405C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.0 | 78.8 | 75.6 | 79.1 | 79.7 | 78.6 | 79.5 | 80.9  | 79.8  | 81.2  | 86.5  | 86.0  | 89.1  | 123.9 |
| 63    | 89.7 | 87.7 | 80.0 | 84.0 | 89.4 | 85.7 | 86.6 | 88.0  | 87.0  | 88.0  | 89.7  | 89.4  | 91.0  | 129.7 |
| 80    | 82.7 | 87.0 | 84.2 | 85.0 | 84.9 | 86.7 | 86.9 | 87.0  | 88.2  | 87.8  | 89.2  | 92.4  | 94.3  | 129.8 |
| 100   | 84.2 | 89.5 | 85.0 | 87.1 | 88.4 | 88.3 | 88.2 | 90.6  | 89.0  | 91.6  | 94.5  | 96.7  | 99.6  | 133.3 |
| 125   | 80.4 | 84.7 | 86.2 | 87.2 | 88.3 | 89.2 | 89.6 | 90.2  | 90.2  | 92.8  | 97.4  | 100.1 | 102.0 | 135.2 |
| 160   | 81.9 | 79.0 | 84.0 | 83.5 | 84.9 | 85.5 | 89.9 | 87.3  | 88.2  | 92.8  | 98.2  | 100.9 | 104.0 | 135.7 |
| 200   | 83.6 | 82.1 | 82.9 | 84.2 | 86.0 | 87.6 | 89.5 | 90.2  | 93.1  | 94.7  | 99.3  | 103.5 | 106.2 | 137.8 |
| 250   | 81.3 | 85.6 | 85.3 | 86.1 | 86.5 | 87.6 | 90.0 | 92.4  | 93.3  | 99.1  | 104.5 | 107.2 | 107.9 | 140.9 |
| 315   | 83.6 | 85.9 | 84.7 | 87.0 | 88.3 | 89.7 | 92.6 | 93.0  | 95.7  | 101.0 | 104.9 | 108.3 | 109.2 | 142.0 |
| 400   | 81.7 | 85.0 | 85.8 | 86.6 | 88.4 | 88.8 | 98.7 | 93.1  | 96.3  | 102.6 | 106.7 | 109.7 | 108.6 | 143.1 |
| 500   | 83.0 | 85.3 | 86.3 | 87.6 | 88.4 | 90.3 | 92.7 | 93.8  | 97.6  | 102.9 | 107.3 | 109.4 | 108.6 | 143.1 |
| 630   | 82.7 | 85.5 | 87.5 | 88.3 | 89.4 | 91.0 | 92.1 | 94.5  | 97.2  | 103.3 | 106.7 | 108.9 | 108.0 | 142.7 |
| 800   | 83.9 | 86.2 | 88.3 | 89.5 | 90.1 | 92.0 | 93.4 | 95.5  | 98.5  | 103.3 | 105.5 | 106.1 | 106.0 | 141.5 |
| 1000  | 87.2 | 87.5 | 89.2 | 89.3 | 90.9 | 92.2 | 93.4 | 95.8  | 98.7  | 102.6 | 103.9 | 103.9 | 102.5 | 140.1 |
| 1250  | 86.3 | 90.1 | 89.8 | 90.7 | 91.0 | 92.8 | 94.2 | 96.4  | 99.1  | 102.2 | 102.0 | 101.0 | 100.0 | 139.2 |
| 1600  | 86.5 | 90.2 | 90.6 | 91.7 | 92.5 | 93.8 | 95.2 | 97.0  | 99.6  | 100.9 | 100.8 | 98.7  | 97.5  | 138.7 |
| 2000  | 87.0 | 89.4 | 90.6 | 91.7 | 92.1 | 92.9 | 95.4 | 97.5  | 99.6  | 100.4 | 99.4  | 97.0  | 95.2  | 138.2 |
| 2500  | 87.5 | 91.8 | 91.3 | 91.6 | 93.2 | 94.6 | 95.5 | 99.1  | 101.2 | 101.8 | 99.5  | 97.4  | 95.1  | 139.3 |
| 3150  | 87.6 | 90.4 | 91.5 | 92.0 | 93.3 | 94.3 | 95.1 | 97.0  | 99.0  | 101.1 | 101.9 | 101.4 | 98.6  | 139.8 |
| 4000  | 87.1 | 90.0 | 92.1 | 93.3 | 94.2 | 95.9 | 97.0 | 100.4 | 102.7 | 102.4 | 102.2 | 101.2 | 99.0  | 141.0 |
| 5000  | 89.0 | 92.0 | 93.1 | 94.1 | 94.6 | 96.6 | 98.4 | 100.8 | 104.2 | 104.1 | 105.7 | 104.2 | 102.0 | 143.1 |
| 6300  | 90.7 | 93.0 | 94.3 | 95.4 | 96.5 | 97.2 | 99.3 | 102.7 | 104.7 | 105.5 | 107.1 | 105.9 | 104.1 | 144.6 |
| 8000  | 91.5 | 94.1 | 94.7 | 95.2 | 95.8 | 97.9 | 98.8 | 101.7 | 103.9 | 105.7 | 106.7 | 105.7 | 104.6 | 144.7 |
| 10000 | 91.2 | 94.9 | 95.9 | 95.8 | 96.5 | 98.2 | 99.2 | 101.4 | 102.8 | 104.6 | 105.6 | 105.4 | 103.6 | 144.7 |
| 12500 | 91.6 | 92.9 | 95.5 | 96.0 | 96.1 | 97.6 | 97.9 | 100.0 | 101.8 | 101.4 | 103.5 | 103.3 | 102.1 | 143.9 |
| 16000 | 90.7 | 92.6 | 93.7 | 94.6 | 95.8 | 96.5 | 97.1 | 98.9  | 100.1 | 99.2  | 101.4 | 100.8 | 98.9  | 143.5 |
| 20000 | 89.6 | 90.6 | 92.8 | 94.1 | 94.2 | 95.5 | 95.5 | 96.6  | 97.9  | 96.4  | 99.1  | 98.9  | 96.3  | 143.4 |
| 25000 | 86.1 | 88.5 | 90.5 | 92.2 | 93.1 | 94.7 | 95.1 | 95.6  | 96.2  | 95.3  | 96.5  | 96.2  | 92.2  | 144.1 |
| 31500 | 79.3 | 82.8 | 85.1 | 87.4 | 88.7 | 89.8 | 89.8 | 90.1  | 91.6  | 91.2  | 92.6  | 91.2  | 85.7  | 142.4 |
| 40000 | 75.6 | 79.7 | 82.2 | 84.0 | 85.5 | 86.9 | 86.7 | 87.8  | 89.5  | 89.1  | 90.0  | 88.2  | 82.6  | 143.8 |
| 50000 | 72.1 | 76.3 | 78.4 | 79.7 | 82.7 | 84.0 | 83.7 | 84.2  | 86.8  | 88.3  | 88.4  | 86.1  | 79.4  | 145.7 |
| 63000 | 68.0 | 71.5 | 74.5 | 75.9 | 78.5 | 80.7 | 79.6 | 82.1  | 85.2  | 86.8  | 88.3  | 83.9  | 76.4  | 149.1 |
| 80000 | 60.7 | 68.2 | 71.0 | 70.9 | 74.5 | 77.4 | 75.5 | 78.2  | 82.4  | 84.8  | 86.6  | 80.8  | 69.9  | 153.3 |

CASPL 101.9 104.3 105.3 106.1 107.0 108.4 109.9 111.8 114.0 115.8 117.7 118.6 118.2 158.8

PNL 113.1 115.7 116.6 117.5 118.6 120.0 121.7 124.1 126.5 127.9 129.4 129.0 128.0

PNLT 113.1 116.3 116.6 117.5 118.6 120.0 122.7 124.1 126.5 127.9 129.4 129.0 128.0

DBA 99.5 102.4 103.3 104.1 105.0 106.5 108.2 110.6 113.1 114.6 115.8 115.9 114.8

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH218 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1650.8 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2059.0 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-ZER-0405 TAPE = X0405C TEST PT NO = 0405 NC = AE058 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0405 X0405F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.0 | 78.8 | 75.6 | 79.1 | 79.7 | 78.6 | 79.5 | 80.9  | 79.8  | 81.2  | 86.5  | 86.0  | 89.1  | 123.9 |
| 63    | 89.7 | 87.7 | 80.0 | 84.0 | 89.4 | 85.7 | 86.6 | 88.0  | 87.0  | 88.0  | 89.7  | 89.4  | 91.0  | 129.7 |
| 80    | 82.7 | 87.0 | 84.2 | 85.0 | 84.9 | 86.7 | 86.9 | 87.0  | 88.2  | 87.8  | 89.2  | 92.4  | 94.3  | 129.8 |
| 100   | 84.2 | 89.5 | 85.0 | 87.1 | 88.4 | 88.3 | 88.2 | 90.6  | 89.0  | 91.6  | 94.5  | 96.7  | 99.6  | 133.3 |
| 125   | 80.4 | 84.7 | 86.2 | 87.2 | 88.3 | 89.2 | 89.6 | 90.2  | 90.2  | 92.8  | 97.4  | 100.1 | 102.0 | 135.2 |
| 160   | 81.9 | 79.0 | 84.0 | 83.5 | 84.9 | 85.5 | 89.9 | 87.3  | 88.2  | 92.8  | 88.2  | 100.9 | 104.0 | 135.7 |
| 200   | 83.6 | 82.1 | 82.9 | 84.2 | 86.0 | 87.6 | 89.5 | 90.2  | 93.1  | 94.7  | 89.3  | 103.5 | 106.2 | 137.8 |
| 250   | 81.3 | 85.6 | 85.3 | 86.1 | 86.5 | 87.6 | 90.0 | 92.4  | 93.3  | 99.1  | 104.5 | 107.2 | 107.9 | 140.9 |
| 315   | 83.6 | 85.9 | 84.7 | 87.0 | 88.3 | 89.7 | 92.6 | 93.0  | 95.7  | 101.0 | 104.9 | 108.3 | 109.2 | 142.0 |
| 400   | 81.7 | 85.0 | 85.8 | 86.6 | 88.4 | 88.8 | 98.7 | 93.1  | 96.3  | 102.6 | 106.7 | 109.7 | 108.6 | 143.1 |
| 500   | 83.0 | 85.3 | 86.3 | 87.6 | 88.4 | 90.3 | 92.7 | 93.8  | 97.6  | 102.9 | 107.3 | 109.4 | 108.6 | 143.1 |
| 630   | 82.7 | 85.5 | 87.5 | 88.3 | 89.4 | 91.0 | 92.1 | 94.5  | 97.2  | 103.3 | 106.7 | 108.9 | 108.0 | 142.7 |
| 800   | 83.9 | 86.2 | 88.3 | 89.5 | 90.1 | 92.0 | 93.4 | 95.5  | 98.5  | 103.3 | 105.5 | 106.1 | 106.0 | 141.5 |
| 1000  | 87.2 | 87.5 | 89.2 | 89.3 | 90.9 | 92.2 | 93.4 | 95.8  | 98.7  | 102.6 | 103.9 | 103.9 | 102.5 | 140.1 |
| 1250  | 86.3 | 90.1 | 89.8 | 90.7 | 91.0 | 92.8 | 94.2 | 96.4  | 99.1  | 102.2 | 102.0 | 101.0 | 100.0 | 139.2 |
| 1600  | 86.5 | 90.2 | 90.6 | 91.7 | 92.5 | 93.8 | 95.2 | 97.0  | 99.6  | 100.9 | 100.8 | 98.7  | 97.5  | 138.7 |
| 2000  | 87.0 | 89.4 | 90.6 | 91.7 | 92.1 | 92.9 | 95.4 | 97.5  | 99.6  | 100.4 | 99.4  | 97.0  | 95.2  | 138.2 |
| 2500  | 87.5 | 91.8 | 91.3 | 91.6 | 93.2 | 94.6 | 95.5 | 99.1  | 101.2 | 101.8 | 99.5  | 97.4  | 95.1  | 139.3 |
| 3150  | 87.6 | 90.4 | 91.5 | 92.0 | 93.3 | 95.1 | 97.0 | 99.0  | 101.1 | 101.9 | 101.4 | 98.6  | 95.6  | 139.8 |
| 4000  | 87.1 | 90.0 | 92.1 | 93.3 | 94.2 | 95.9 | 97.0 | 100.4 | 102.7 | 102.4 | 102.2 | 101.2 | 99.0  | 141.0 |
| 5000  | 89.0 | 92.0 | 93.1 | 94.1 | 94.6 | 96.6 | 98.4 | 100.8 | 104.2 | 104.1 | 105.7 | 104.2 | 102.0 | 143.1 |
| 6300  | 90.7 | 93.0 | 94.3 | 95.4 | 96.5 | 97.2 | 99.3 | 102.7 | 104.7 | 105.5 | 107.1 | 105.9 | 104.1 | 144.6 |
| 8000  | 91.5 | 94.1 | 94.7 | 95.2 | 95.8 | 97.9 | 98.8 | 101.7 | 103.9 | 105.7 | 106.7 | 105.7 | 104.6 | 144.7 |
| 10000 | 91.2 | 94.9 | 95.9 | 95.8 | 96.5 | 98.2 | 99.2 | 101.4 | 102.8 | 104.6 | 105.6 | 105.4 | 103.6 | 144.7 |
| 12500 | 91.6 | 92.9 | 95.5 | 96.0 | 96.1 | 97.6 | 97.9 | 100.0 | 101.8 | 101.4 | 103.5 | 103.3 | 102.1 | 143.9 |
| 16000 | 90.7 | 92.6 | 93.7 | 94.6 | 95.8 | 96.5 | 97.1 | 98.9  | 100.1 | 99.2  | 101.4 | 100.8 | 98.9  | 143.5 |
| 20000 | 89.6 | 90.6 | 92.8 | 94.1 | 94.2 | 95.5 | 95.5 | 96.6  | 97.9  | 96.4  | 99.1  | 98.9  | 96.3  | 143.4 |
| 25000 | 86.1 | 88.5 | 90.5 | 92.2 | 93.1 | 94.7 | 95.1 | 95.6  | 96.2  | 95.3  | 96.5  | 96.2  | 92.2  | 144.1 |
| 31500 | 79.3 | 82.8 | 85.1 | 87.4 | 88.7 | 89.8 | 89.8 | 90.1  | 91.6  | 91.2  | 92.6  | 91.2  | 85.7  | 142.4 |
| 40000 | 75.6 | 79.7 | 82.2 | 84.0 | 85.5 | 86.9 | 86.7 | 87.8  | 89.5  | 89.1  | 90.0  | 88.2  | 82.6  | 143.8 |
| 50000 | 72.1 | 76.3 | 78.4 | 79.7 | 82.7 | 84.0 | 83.7 | 84.2  | 86.8  | 88.3  | 88.4  | 86.1  | 79.4  | 145.7 |
| 63000 | 68.0 | 71.5 | 74.5 | 75.9 | 78.5 | 80.7 | 79.6 | 82.1  | 85.2  | 86.8  | 88.3  | 83.9  | 76.4  | 149.1 |
| 80000 | 60.7 | 68.2 | 71.0 | 70.9 | 74.5 | 77.4 | 75.5 | 78.2  | 82.4  | 84.8  | 86.6  | 80.8  | 69.9  | 153.3 |

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CASPL 101.9 104.3 106.3 106.1 107.0 108.4 109.9 111.8 114.0 115.8 117.7 118.6 118.2 158.8  
PNL 113.1 115.7 116.6 117.5 118.6 120.0 121.7 124.1 126.5 127.9 129.4 129.0 128.0  
PNLT 113.1 116.3 116.6 117.5 118.6 120.0 122.7 124.1 126.5 127.9 129.4 129.0 128.0  
DBA 183.0 189.3 192.1 192.4 195.7 198.4 196.8 199.4 203.3 205.5 207.2 201.8 191.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-231e6

VEHICL = ADH218 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1650.8 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2059.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0405 TAPE = X0405F TEST PT NO = 0405 NC = AE058 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0405 X04051

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|
| 50    | 59.9 | 64.7 | 66.5 | 68.0 | 70.3 | 70.8 | 80.5 | 74.5 | 77.0  | 82.3 | 84.9 | 85.6 | 81.2 | 160.7 |
| 63    | 61.1 | 64.9 | 67.0 | 69.0 | 70.3 | 72.3 | 74.5 | 75.3 | 78.3  | 82.5 | 85.4 | 85.4 | 81.2 | 160.7 |
| 80    | 60.7 | 65.1 | 68.2 | 69.7 | 71.2 | 72.9 | 73.9 | 75.9 | 77.9  | 82.9 | 84.8 | 84.7 | 80.5 | 160.3 |
| 100   | 61.9 | 65.8 | 68.9 | 70.9 | 71.9 | 73.9 | 75.2 | 76.9 | 79.2  | 82.9 | 83.5 | 81.9 | 78.3 | 159.1 |
| 125   | 65.1 | 66.9 | 69.8 | 70.6 | 72.6 | 74.1 | 75.1 | 77.1 | 79.3  | 82.0 | 81.8 | 79.5 | 74.6 | 157.7 |
| 160   | 64.0 | 69.4 | 70.3 | 71.9 | 72.5 | 74.6 | 75.8 | 77.5 | 79.5  | 81.5 | 79.7 | 76.3 | 71.7 | 156.8 |
| 200   | 64.0 | 69.3 | 70.9 | 72.7 | 73.9 | 75.4 | 76.6 | 78.0 | 79.9  | 80.0 | 78.3 | 73.8 | 68.7 | 156.3 |
| 250   | 64.1 | 68.3 | 70.6 | 72.5 | 73.3 | 74.3 | 76.7 | 78.3 | 79.6  | 79.2 | 76.5 | 71.6 | 65.8 | 155.8 |
| 315   | 64.2 | 70.3 | 71.1 | 72.1 | 74.2 | 75.7 | 76.5 | 79.6 | 81.0  | 80.3 | 76.2 | 71.4 | 64.9 | 156.9 |
| 400   | 63.8 | 68.5 | 70.8 | 72.2 | 74.0 | 76.0 | 77.7 | 79.2 | 80.4  | 80.0 | 77.6 | 72.0 | 65.3 | 157.4 |
| 500   | 62.8 | 67.7 | 71.1 | 73.2 | 74.6 | 76.5 | 77.4 | 80.3 | 81.8  | 80.1 | 77.9 | 74.0 | 66.8 | 158.6 |
| 630   | 64.3 | 69.3 | 71.8 | 73.7 | 74.7 | 76.8 | 78.6 | 80.4 | 82.9  | 81.4 | 80.9 | 76.3 | 68.7 | 160.7 |
| 800   | 65.4 | 69.9 | 72.7 | 74.8 | 76.4 | 77.3 | 79.1 | 82.0 | 83.1  | 82.5 | 81.8 | 77.3 | 69.7 | 162.2 |
| 1000  | 65.8 | 70.7 | 72.8 | 74.3 | 75.6 | 77.8 | 78.6 | 80.8 | 82.0  | 82.3 | 81.0 | 76.4 | 69.1 | 162.3 |
| 1250  | 65.0 | 71.2 | 73.9 | 74.8 | 76.1 | 78.0 | 78.8 | 80.4 | 80.7  | 80.9 | 79.4 | 75.2 | 66.6 | 162.3 |
| 1600  | 64.5 | 68.6 | 73.0 | 74.6 | 75.4 | 77.1 | 77.2 | 78.7 | 79.3  | 77.1 | 76.4 | 71.9 | 62.7 | 161.5 |
| 2000  | 62.7 | 67.7 | 70.9 | 73.1 | 74.9 | 75.9 | 76.2 | 77.3 | 77.3  | 74.3 | 73.4 | 67.7 | 56.5 | 161.1 |
| 2500  | 59.7 | 64.5 | 69.0 | 71.9 | 72.8 | 74.3 | 74.1 | 74.4 | 74.2  | 70.3 | 69.3 | 63.0 | 49.1 | 161.0 |
| 3150  | 52.9 | 59.9 | 64.9 | 68.4 | 70.3 | 72.2 | 72.3 | 71.8 | 70.6  | 66.7 | 63.3 | 55.3 | 36.5 | 161.7 |
| 4000  | 39.9 | 49.5 | 55.6 | 60.3 | 62.9 | 64.4 | 64.0 | 63.0 | 62.1  | 57.9 | 53.1 | 41.3 | 15.5 | 160.0 |
| 5000  | 26.4 | 38.9 | 46.6 | 51.5 | 54.8 | 56.7 | 56.0 | 55.3 | 53.9  | 48.3 | 40.8 | 24.7 |      | 161.4 |
| 6300  | 5.1  | 21.2 | 30.6 | 36.4 | 41.9 | 43.9 | 42.8 | 40.9 | 39.0  | 33.2 | 21.4 |      |      | 163.3 |
| 8000  |      |      | 5.4  | 13.3 | 19.6 | 22.9 | 20.7 | 19.6 | 16.1  | 6.9  |      |      |      | 166.7 |
| 10000 |      |      |      |      |      |      |      |      |       |      |      |      |      | 170.9 |
| 12500 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
| CASPL | 76.2 | 81.0 | 83.6 | 85.3 | 86.8 | 88.3 | 89.8 | 91.3 | 92.7  | 93.6 | 93.5 | 92.0 | 87.3 | 176.1 |
| PNL   | 83.7 | 89.0 | 92.2 | 94.6 | 96.0 | 97.6 | 98.2 | 99.4 | 100.1 | 99.1 | 98.0 | 93.8 | 86.5 |       |
| PNLT  | 83.7 | 89.0 | 92.8 | 94.6 | 96.5 | 97.6 | 98.7 | 99.4 | 100.1 | 99.7 | 98.0 | 93.8 | 86.5 |       |
| DBA   | 73.6 | 78.6 | 81.6 | 83.4 | 84.8 | 86.4 | 87.2 | 89.0 | 89.9  | 89.1 | 87.9 | 83.4 | 75.8 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH218 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1650.8 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2059.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0405 TAPE = X04051 TEST PT NO = 0405 NC = AE058 CORR FAN SPEED = RPM

PI185-03

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0407 X0407C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.5 | 78.6 | 76.8 | 80.4 | 81.5 | 77.8 | 76.5  | 81.4  | 79.8  | 77.4  | 86.8  | 87.5  | 89.6  | 124.2 |
| 63    | 89.7 | 87.5 | 82.2 | 85.0 | 89.1 | 86.0 | 85.9  | 87.3  | 86.2  | 85.0  | 89.9  | 90.6  | 91.3  | 129.6 |
| 80    | 83.9 | 88.0 | 85.2 | 86.5 | 86.1 | 88.0 | 88.9  | 87.8  | 89.0  | 89.3  | 90.7  | 93.1  | 95.5  | 131.0 |
| 100   | 85.2 | 90.8 | 86.3 | 88.3 | 89.9 | 89.3 | 89.4  | 91.6  | 90.0  | 92.6  | 95.0  | 97.7  | 100.6 | 134.3 |
| 125   | 81.4 | 85.7 | 87.5 | 88.5 | 89.6 | 90.0 | 90.3  | 91.5  | 91.2  | 93.8  | 98.7  | 102.1 | 103.5 | 136.6 |
| 160   | 82.9 | 80.7 | 85.0 | 85.0 | 86.6 | 86.5 | 91.1  | 87.8  | 89.0  | 93.8  | 99.7  | 102.9 | 106.0 | 137.4 |
| 200   | 84.3 | 82.4 | 83.6 | 85.2 | 87.0 | 88.1 | 90.5  | 90.9  | 93.9  | 95.2  | 100.6 | 104.8 | 107.7 | 139.0 |
| 250   | 83.0 | 86.3 | 85.8 | 87.1 | 87.2 | 88.6 | 91.2  | 93.6  | 94.8  | 99.9  | 106.0 | 108.7 | 109.6 | 142.4 |
| 315   | 83.9 | 86.2 | 85.4 | 87.5 | 89.6 | 90.9 | 93.8  | 94.2  | 96.9  | 101.5 | 106.4 | 110.1 | 110.7 | 143.5 |
| 400   | 83.5 | 85.8 | 87.0 | 87.3 | 89.4 | 89.8 | 99.7  | 94.3  | 97.5  | 103.3 | 108.0 | 111.2 | 110.6 | 144.5 |
| 500   | 84.2 | 86.5 | 87.3 | 88.6 | 89.4 | 91.3 | 93.7  | 95.3  | 98.6  | 103.4 | 108.5 | 111.4 | 110.6 | 144.7 |
| 630   | 83.9 | 86.7 | 88.2 | 89.5 | 90.1 | 91.7 | 92.9  | 96.0  | 98.0  | 103.8 | 107.4 | 110.9 | 110.3 | 144.2 |
| 800   | 85.4 | 87.5 | 89.3 | 90.3 | 91.4 | 92.7 | 93.9  | 97.0  | 99.3  | 104.3 | 106.7 | 108.4 | 108.5 | 143.1 |
| 1000  | 88.4 | 88.7 | 90.5 | 90.8 | 91.9 | 92.7 | 94.4  | 97.0  | 100.5 | 103.8 | 104.4 | 106.1 | 105.8 | 141.7 |
| 1250  | 87.8 | 91.3 | 91.1 | 92.2 | 92.5 | 94.3 | 95.5  | 97.1  | 100.3 | 103.4 | 103.5 | 102.7 | 103.0 | 140.7 |
| 1600  | 87.8 | 91.4 | 91.6 | 92.5 | 93.7 | 94.8 | 96.2  | 98.2  | 100.9 | 102.4 | 103.1 | 101.2 | 100.7 | 140.3 |
| 2000  | 88.0 | 90.2 | 91.6 | 92.5 | 93.1 | 94.9 | 95.9  | 98.5  | 100.6 | 102.1 | 100.9 | 99.5  | 98.2  | 139.6 |
| 2500  | 88.3 | 92.0 | 92.3 | 92.3 | 94.5 | 95.8 | 96.3  | 100.4 | 102.2 | 102.8 | 100.3 | 99.6  | 98.1  | 140.4 |
| 3150  | 88.9 | 91.9 | 92.5 | 93.5 | 94.1 | 96.4 | 98.0  | 100.5 | 102.1 | 103.4 | 101.4 | 100.1 | 98.3  | 140.9 |
| 4000  | 87.8 | 91.2 | 92.8 | 93.5 | 95.2 | 96.7 | 98.3  | 101.4 | 103.2 | 104.2 | 102.4 | 102.5 | 101.5 | 142.1 |
| 5000  | 90.3 | 92.5 | 94.1 | 94.8 | 95.3 | 97.3 | 99.2  | 102.3 | 104.5 | 105.1 | 105.4 | 105.7 | 104.5 | 143.8 |
| 6300  | 91.4 | 93.2 | 94.8 | 95.7 | 97.0 | 98.0 | 100.5 | 103.4 | 105.4 | 106.5 | 107.1 | 107.6 | 105.9 | 145.4 |
| 8000  | 91.3 | 94.9 | 95.4 | 96.4 | 96.3 | 98.6 | 99.8  | 102.9 | 105.1 | 106.7 | 106.7 | 107.0 | 105.4 | 145.6 |
| 10000 | 92.5 | 95.7 | 96.4 | 97.3 | 97.5 | 99.5 | 99.7  | 102.2 | 103.8 | 105.9 | 105.1 | 106.9 | 105.4 | 145.6 |
| 12500 | 93.3 | 94.9 | 97.2 | 97.5 | 97.1 | 98.6 | 98.9  | 101.0 | 102.6 | 102.2 | 103.7 | 104.6 | 104.1 | 144.9 |
| 16000 | 91.7 | 95.3 | 96.0 | 97.4 | 97.3 | 97.7 | 98.1  | 99.9  | 100.6 | 100.4 | 101.7 | 102.3 | 100.6 | 144.7 |
| 20000 | 89.6 | 91.9 | 94.0 | 96.4 | 96.4 | 97.5 | 97.0  | 97.4  | 98.2  | 97.7  | 99.6  | 99.7  | 98.6  | 144.6 |
| 25000 | 86.9 | 89.7 | 92.0 | 93.9 | 94.8 | 96.2 | 96.1  | 96.3  | 96.7  | 96.3  | 97.0  | 97.4  | 94.0  | 145.2 |
| 31500 | 80.8 | 84.3 | 86.6 | 89.4 | 89.7 | 91.8 | 91.0  | 91.8  | 92.3  | 92.2  | 92.8  | 92.4  | 87.2  | 143.7 |
| 40000 | 77.1 | 81.5 | 84.0 | 85.7 | 87.3 | 89.4 | 88.5  | 89.3  | 90.5  | 91.1  | 90.8  | 90.0  | 84.6  | 145.4 |
| 50000 | 73.1 | 77.8 | 80.6 | 81.7 | 84.5 | 86.2 | 85.4  | 85.9  | 88.0  | 89.8  | 88.9  | 88.1  | 82.4  | 147.2 |
| 63000 | 68.8 | 74.0 | 77.3 | 77.9 | 81.0 | 82.9 | 81.6  | 84.1  | 86.5  | 88.8  | 88.5  | 87.2  | 79.2  | 150.8 |
| 80000 | 61.9 | 70.9 | 73.5 | 73.9 | 76.7 | 79.1 | 78.2  | 79.7  | 83.7  | 87.1  | 87.8  | 84.1  | 72.4  | 155.1 |

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OASPL 102.8 105.4 106.4 107.5 108.1 109.5 110.8 112.9 114.9 116.8 118.5 120.4 120.2 160.3  
PNL 114.0 116.6 117.5 118.3 119.4 120.9 122.7 125.1 127.2 129.0 129.9 130.8 130.0  
PNLT 114.0 117.2 117.5 118.3 119.4 120.9 123.7 125.1 127.2 129.0 129.9 130.8 130.0  
DBA 100.5 103.3 104.2 105.0 105.9 107.5 109.1 111.8 113.9 115.8 116.4 117.7 117.0

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH219 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1654.4 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2132.5 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-ZER-0407 TAPE = X0407C TEST PT NO = 0407 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0407 X0407F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.5  | 78.6  | 76.8  | 80.4  | 81.5  | 77.8  | 76.5  | 81.4  | 79.8  | 77.4  | 86.8  | 87.5  | 89.6  | 124.2 |
| 63    | 89.7  | 87.5  | 82.2  | 85.0  | 89.1  | 86.0  | 85.9  | 87.3  | 86.2  | 85.0  | 89.9  | 90.6  | 91.3  | 129.6 |
| 80    | 83.9  | 88.0  | 85.2  | 86.5  | 86.1  | 88.0  | 88.9  | 87.8  | 89.0  | 89.3  | 90.7  | 93.1  | 95.5  | 131.0 |
| 100   | 85.2  | 90.8  | 86.3  | 88.3  | 89.9  | 89.3  | 89.4  | 91.6  | 90.0  | 92.6  | 95.0  | 97.7  | 100.6 | 134.3 |
| 125   | 81.4  | 85.7  | 87.5  | 88.5  | 89.6  | 90.0  | 90.3  | 91.5  | 91.2  | 93.8  | 98.7  | 102.1 | 103.5 | 136.6 |
| 160   | 82.9  | 80.7  | 85.0  | 85.0  | 86.6  | 86.5  | 91.1  | 87.8  | 89.0  | 93.8  | 99.7  | 102.9 | 106.0 | 137.4 |
| 200   | 84.3  | 82.4  | 83.6  | 85.2  | 87.0  | 88.1  | 90.5  | 90.9  | 93.9  | 95.2  | 100.6 | 104.8 | 107.7 | 139.0 |
| 250   | 83.0  | 86.3  | 85.8  | 87.1  | 87.2  | 88.6  | 91.2  | 93.6  | 94.8  | 99.9  | 106.0 | 108.7 | 109.6 | 142.4 |
| 315   | 83.9  | 86.2  | 85.4  | 87.5  | 89.6  | 90.9  | 93.8  | 94.2  | 96.9  | 101.5 | 106.4 | 110.1 | 110.7 | 143.5 |
| 400   | 83.5  | 85.8  | 87.0  | 87.3  | 89.4  | 89.8  | 99.7  | 94.3  | 97.5  | 103.3 | 108.0 | 111.2 | 110.6 | 144.5 |
| 500   | 84.2  | 85.5  | 87.3  | 88.6  | 89.4  | 91.3  | 93.7  | 95.3  | 98.6  | 103.4 | 108.5 | 111.4 | 110.6 | 144.7 |
| 630   | 83.9  | 86.7  | 88.2  | 89.5  | 90.1  | 91.7  | 92.9  | 96.0  | 98.0  | 103.8 | 107.4 | 110.9 | 110.3 | 144.2 |
| 800   | 85.4  | 87.5  | 89.3  | 90.3  | 91.4  | 92.7  | 93.9  | 97.0  | 99.3  | 104.3 | 106.7 | 108.4 | 108.5 | 143.1 |
| 1000  | 88.4  | 88.7  | 90.5  | 90.8  | 91.9  | 92.7  | 94.4  | 97.0  | 100.5 | 103.8 | 104.4 | 106.1 | 105.8 | 141.7 |
| 1250  | 87.8  | 91.3  | 91.1  | 92.2  | 92.5  | 94.3  | 95.5  | 97.1  | 100.3 | 103.4 | 103.5 | 102.7 | 103.0 | 140.7 |
| 1600  | 87.3  | 91.4  | 91.6  | 92.5  | 93.7  | 94.8  | 96.2  | 98.2  | 100.9 | 102.4 | 103.1 | 101.2 | 100.7 | 140.3 |
| 2000  | 88.0  | 90.2  | 91.6  | 92.5  | 93.1  | 94.9  | 95.9  | 98.5  | 100.6 | 102.1 | 100.9 | 99.5  | 98.2  | 139.6 |
| 2500  | 88.3  | 92.0  | 92.3  | 92.3  | 94.5  | 95.6  | 96.3  | 100.4 | 102.2 | 102.8 | 100.3 | 99.6  | 98.1  | 140.4 |
| 3150  | 88.9  | 91.9  | 92.5  | 93.5  | 94.1  | 96.4  | 98.0  | 100.5 | 102.1 | 103.4 | 101.4 | 100.1 | 98.3  | 140.9 |
| 4000  | 87.8  | 91.2  | 92.8  | 93.5  | 95.2  | 96.7  | 98.3  | 101.4 | 103.2 | 104.2 | 102.4 | 102.5 | 101.5 | 142.1 |
| 5000  | 90.3  | 92.5  | 94.1  | 94.8  | 95.3  | 97.3  | 99.2  | 102.3 | 104.5 | 105.1 | 105.4 | 105.7 | 104.5 | 143.8 |
| 6300  | 91.4  | 93.2  | 94.8  | 95.7  | 97.0  | 98.0  | 100.5 | 103.4 | 105.4 | 106.5 | 107.1 | 107.6 | 105.9 | 145.4 |
| 8000  | 91.3  | 94.9  | 95.4  | 96.4  | 96.3  | 98.6  | 99.8  | 102.9 | 105.1 | 106.7 | 106.7 | 107.0 | 105.4 | 145.6 |
| 10000 | 92.5  | 95.7  | 96.4  | 97.3  | 97.5  | 99.5  | 99.7  | 102.2 | 103.8 | 105.9 | 105.1 | 106.9 | 105.4 | 145.6 |
| 12500 | 93.3  | 94.9  | 97.2  | 97.5  | 97.1  | 98.6  | 98.9  | 101.0 | 102.6 | 102.2 | 103.7 | 104.6 | 104.1 | 144.9 |
| 16000 | 91.7  | 95.3  | 96.0  | 97.4  | 97.3  | 97.7  | 98.1  | 99.9  | 100.6 | 100.4 | 101.7 | 102.3 | 100.6 | 144.7 |
| 20000 | 89.6  | 91.9  | 94.0  | 96.4  | 96.4  | 97.5  | 97.0  | 97.4  | 98.2  | 97.7  | 99.6  | 99.7  | 98.6  | 144.6 |
| 25000 | 86.9  | 89.7  | 92.0  | 93.9  | 94.8  | 96.2  | 96.1  | 96.3  | 96.7  | 96.3  | 97.0  | 97.4  | 94.0  | 145.2 |
| 31500 | 80.8  | 84.3  | 86.6  | 89.4  | 89.7  | 91.8  | 91.0  | 91.8  | 92.3  | 92.2  | 92.8  | 92.4  | 87.2  | 143.7 |
| 40000 | 77.1  | 81.5  | 84.0  | 85.7  | 87.3  | 89.4  | 88.5  | 89.3  | 90.5  | 91.1  | 90.8  | 90.0  | 84.6  | 145.4 |
| 50000 | 73.1  | 77.8  | 80.6  | 81.7  | 84.5  | 86.2  | 85.4  | 85.9  | 88.0  | 89.8  | 88.9  | 88.1  | 82.4  | 147.2 |
| 63000 | 68.8  | 74.0  | 77.3  | 77.9  | 81.0  | 82.9  | 81.6  | 84.1  | 86.5  | 88.8  | 88.5  | 87.2  | 79.2  | 150.8 |
| 80000 | 61.9  | 70.9  | 73.5  | 73.9  | 76.7  | 79.1  | 78.2  | 79.7  | 83.7  | 87.1  | 87.8  | 84.1  | 72.4  | 155.1 |
| ASPL  | 102.8 | 105.4 | 106.4 | 107.5 | 108.1 | 109.5 | 110.8 | 112.9 | 114.9 | 116.8 | 118.5 | 120.4 | 120.2 | 160.3 |
| PNL   | 114.0 | 116.6 | 117.5 | 118.3 | 119.4 | 120.9 | 122.7 | 125.1 | 127.2 | 129.0 | 129.9 | 130.8 | 130.0 |       |
| PNLT  | 114.0 | 117.2 | 117.5 | 118.3 | 119.4 | 120.9 | 123.7 | 125.1 | 127.2 | 129.0 | 129.9 | 130.8 | 130.0 |       |
| DBA   | 184.1 | 192.0 | 194.6 | 195.1 | 198.0 | 200.3 | 199.3 | 201.0 | 204.6 | 207.7 | 208.3 | 205.0 | 194.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                          |                 |                   |
|-----------------|----------------------|------------------------|--------------------------|-----------------|-------------------|
| VEHICL = ADH219 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4               | MODEL = AX      | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00           | PAMB HG = 29.45 | RELHUM = 75.7 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT EXT CONFIG = ARC | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FNIN1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1654.4 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 2132.5 FPS | AE18 = 20.4 SQ IN |

RUMPT = 82F-2ER-0407 TAPE = X0407F TEST PT NO = 0407 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0407 X04071

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|------|------|------|-------|
| FREQ  |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 50    | 61.6 | 65.5 | 67.8 | 68.8 | 71.3 | 71.8 | 81.5 | 75.8  | 78.3  | 83.0  | 86.1 | 87.1 | 83.2 | 162.1 |
| 63    | 62.4 | 66.2 | 68.0 | 70.0 | 71.3 | 73.3 | 75.5 | 76.8  | 79.3  | 83.0  | 86.6 | 87.4 | 83.2 | 162.3 |
| 80    | 62.0 | 66.3 | 68.9 | 70.9 | 71.9 | 73.7 | 74.7 | 77.4  | 78.7  | 83.4  | 85.5 | 86.7 | 82.7 | 161.8 |
| 100   | 63.4 | 67.0 | 69.9 | 71.7 | 73.2 | 74.7 | 75.7 | 78.4  | 79.9  | 83.9  | 84.7 | 84.1 | 80.8 | 160.7 |
| 125   | 66.3 | 68.2 | 71.1 | 72.1 | 73.6 | 74.6 | 76.1 | 78.3  | 81.1  | 83.3  | 82.3 | 81.7 | 77.9 | 159.3 |
| 160   | 65.5 | 70.6 | 71.5 | 73.4 | 74.0 | 76.1 | 77.0 | 78.3  | 80.8  | 82.7  | 81.2 | 78.1 | 74.7 | 158.3 |
| 200   | 65.2 | 70.5 | 71.9 | 73.5 | 75.2 | 76.4 | 77.6 | 79.2  | 81.1  | 81.5  | 80.5 | 76.3 | 72.0 | 157.9 |
| 250   | 65.1 | 69.0 | 71.6 | 73.3 | 74.3 | 76.3 | 77.2 | 79.3  | 80.6  | 81.0  | 78.0 | 74.1 | 68.8 | 157.2 |
| 315   | 65.0 | 70.5 | 72.1 | 72.8 | 75.4 | 76.7 | 77.2 | 80.9  | 82.0  | 81.3  | 77.0 | 73.7 | 67.9 | 158.0 |
| 400   | 65.1 | 70.0 | 71.8 | 73.7 | 74.7 | 77.2 | 78.7 | 80.7  | 81.4  | 81.5  | 77.6 | 73.5 | 67.1 | 158.5 |
| 500   | 63.5 | 68.9 | 71.9 | 73.4 | 75.6 | 77.2 | 78.7 | 81.3  | 82.3  | 81.9  | 78.2 | 75.2 | 69.3 | 159.7 |
| 630   | 65.5 | 69.8 | 72.8 | 74.4 | 75.5 | 77.6 | 79.3 | 81.9  | 83.2  | 82.4  | 80.7 | 77.8 | 71.2 | 161.4 |
| 800   | 66.2 | 70.2 | 73.2 | 75.0 | 76.9 | 78.0 | 80.4 | 82.8  | 83.8  | 83.5  | 81.8 | 79.0 | 71.5 | 163.0 |
| 1000  | 65.6 | 71.5 | 73.6 | 75.6 | 76.1 | 78.6 | 79.6 | 82.1  | 83.3  | 83.3  | 81.0 | 77.7 | 69.8 | 163.2 |
| 1250  | 66.3 | 71.9 | 74.4 | 76.3 | 77.1 | 79.3 | 79.3 | 81.2  | 81.7  | 82.1  | 78.9 | 76.7 | 68.4 | 163.2 |
| 1600  | 66.2 | 70.6 | 74.7 | 76.1 | 76.4 | 78.1 | 78.2 | 79.7  | 80.1  | 77.9  | 76.6 | 73.1 | 64.7 | 162.5 |
| 2000  | 63.7 | 70.4 | 73.1 | 75.8 | 76.4 | 77.1 | 77.2 | 78.3  | 77.8  | 75.5  | 73.6 | 69.2 | 58.2 | 162.3 |
| 2500  | 59.7 | 65.8 | 70.3 | 74.1 | 75.0 | 76.3 | 75.6 | 75.1  | 74.4  | 71.5  | 69.8 | 63.8 | 51.3 | 162.2 |
| 3150  | 53.7 | 61.1 | 66.4 | 70.1 | 72.1 | 73.7 | 73.3 | 72.5  | 71.1  | 67.7  | 63.8 | 56.5 | 38.3 | 162.8 |
| 4000  | 41.4 | 51.0 | 57.1 | 62.3 | 63.9 | 66.4 | 65.3 | 64.7  | 62.9  | 58.9  | 53.4 | 42.6 | 17.0 | 161.3 |
| 5000  | 27.9 | 40.6 | 48.3 | 53.2 | 56.5 | 59.2 | 57.7 | 56.8  | 54.9  | 50.3  | 41.6 | 26.4 |      | 163.0 |
| 6300  | 6.1  | 22.7 | 32.9 | 38.4 | 43.6 | 46.1 | 44.6 | 42.6  | 40.3  | 34.7  | 21.9 | 0.5  |      | 164.8 |
| 8000  |      |      | 8.2  | 15.3 | 22.1 | 25.1 | 22.7 | 21.6  | 17.4  | 8.9   |      |      |      | 168.4 |
| 10000 |      |      |      |      |      |      |      |       |       |       |      |      |      | 172.7 |
| 12500 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |       |       |       |      |      |      |       |
| OSPL  | 77.3 | 82.1 | 84.6 | 86.5 | 87.7 | 89.4 | 90.8 | 92.4  | 93.6  | 94.6  | 94.4 | 93.8 | 89.6 | 177.6 |
| PNL   | 84.9 | 90.7 | 93.8 | 96.4 | 97.6 | 99.2 | 99.4 | 100.5 | 100.9 | 100.2 | 98.5 | 95.4 | 89.1 |       |
| PNLT  | 84.9 | 90.7 | 94.3 | 96.4 | 97.6 | 99.2 | 99.4 | 100.5 | 100.9 | 100.8 | 98.5 | 96.5 | 89.1 |       |
| DBA   | 74.5 | 79.8 | 82.8 | 84.9 | 85.9 | 87.5 | 88.2 | 90.0  | 90.7  | 90.2  | 87.9 | 84.9 | 77.7 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH219 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1654.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2132.5 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0407 TAPE = X04071 TEST PT NO = 0407 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0408 X0408C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.3  | 82.1  | 77.6  | 79.0  | 80.5  | 78.6  | 77.7  | 82.4  | 82.6  | 82.7  | 87.5  | 88.2  | 98.1  | 128.0 |
| 63    | 90.4  | 87.5  | 82.0  | 85.0  | 88.1  | 85.2  | 85.6  | 86.0  | 87.5  | 84.8  | 86.4  | 86.9  | 96.0  | 129.6 |
| 80    | 83.9  | 88.0  | 85.2  | 85.6  | 85.9  | 87.5  | 88.6  | 88.0  | 89.0  | 88.6  | 88.9  | 91.6  | 96.8  | 130.8 |
| 100   | 82.7  | 88.8  | 84.3  | 85.6  | 86.9  | 87.3  | 88.7  | 90.1  | 88.0  | 89.6  | 92.2  | 95.2  | 100.6 | 132.7 |
| 125   | 80.2  | 83.2  | 84.7  | 85.8  | 86.8  | 87.5  | 88.1  | 88.7  | 88.2  | 90.0  | 95.4  | 99.3  | 102.3 | 134.2 |
| 160   | 81.7  | 77.7  | 82.2  | 82.5  | 82.9  | 82.7  | 89.4  | 84.5  | 85.7  | 90.3  | 95.7  | 99.1  | 103.0 | 134.1 |
| 200   | 84.1  | 80.4  | 79.9  | 80.9  | 82.0  | 83.4  | 87.5  | 87.4  | 89.4  | 90.9  | 95.3  | 100.8 | 104.2 | 135.1 |
| 250   | 78.0  | 80.6  | 80.3  | 81.4  | 82.5  | 83.8  | 87.2  | 87.9  | 89.3  | 94.6  | 100.3 | 103.5 | 104.6 | 137.1 |
| 315   | 82.1  | 81.7  | 80.7  | 82.4  | 84.1  | 84.9  | 90.3  | 88.7  | 90.9  | 96.5  | 100.9 | 104.3 | 104.5 | 137.8 |
| 400   | 78.0  | 81.0  | 81.5  | 82.6  | 83.7  | 84.3  | 96.7  | 88.3  | 91.3  | 97.8  | 101.7 | 104.9 | 102.8 | 138.4 |
| 500   | 79.7  | 80.5  | 81.3  | 82.6  | 83.9  | 85.0  | 88.4  | 89.6  | 92.3  | 98.4  | 101.8 | 103.7 | 99.8  | 137.3 |
| 630   | 77.9  | 81.0  | 82.5  | 83.4  | 84.4  | 86.0  | 87.6  | 90.0  | 92.5  | 99.0  | 100.4 | 101.6 | 96.3  | 136.1 |
| 800   | 78.9  | 81.2  | 83.3  | 84.2  | 85.1  | 87.0  | 88.9  | 91.5  | 94.3  | 99.1  | 100.2 | 98.4  | 92.0  | 135.5 |
| 1000  | 81.4  | 81.7  | 84.0  | 84.9  | 85.9  | 87.2  | 89.1  | 91.8  | 95.0  | 98.6  | 98.5  | 95.4  | 88.8  | 134.7 |
| 1250  | 82.3  | 86.3  | 85.6  | 86.0  | 86.5  | 88.3  | 90.7  | 92.8  | 95.1  | 93.2  | 97.5  | 92.0  | 87.2  | 134.4 |
| 1600  | 84.3  | 86.7  | 87.6  | 88.2  | 88.7  | 90.1  | 92.2  | 94.0  | 96.9  | 98.2  | 97.3  | 89.5  | 86.0  | 135.2 |
| 2000  | 85.0  | 85.2  | 86.9  | 87.6  | 88.3  | 89.2  | 92.2  | 94.0  | 96.4  | 97.9  | 95.4  | 88.0  | 85.0  | 134.6 |
| 2500  | 85.3  | 86.5  | 87.6  | 88.7  | 89.7  | 90.6  | 92.5  | 95.9  | 97.7  | 98.8  | 95.0  | 87.6  | 83.6  | 135.6 |
| 3150  | 85.9  | 87.4  | 88.0  | 89.0  | 90.1  | 92.1  | 94.3  | 96.5  | 97.8  | 98.9  | 95.9  | 87.6  | 83.3  | 136.2 |
| 4000  | 85.8  | 87.2  | 88.6  | 89.9  | 91.2  | 92.9  | 94.8  | 97.9  | 99.2  | 99.2  | 94.9  | 87.7  | 83.8  | 137.0 |
| 5000  | 87.8  | 89.5  | 90.4  | 91.5  | 92.6  | 94.3  | 96.5  | 98.8  | 100.5 | 100.9 | 97.7  | 90.0  | 85.3  | 138.7 |
| 6300  | 88.2  | 90.8  | 91.8  | 92.9  | 94.0  | 95.5  | 97.5  | 100.2 | 101.2 | 102.6 | 99.6  | 92.9  | 86.9  | 140.3 |
| 8000  | 88.6  | 91.9  | 92.5  | 92.9  | 93.4  | 95.7  | 97.6  | 100.2 | 101.7 | 103.2 | 101.0 | 94.5  | 88.9  | 141.1 |
| 10000 | 90.3  | 93.5  | 94.0  | 94.5  | 95.0  | 96.8  | 98.6  | 100.4 | 101.8 | 104.2 | 102.4 | 97.1  | 91.2  | 142.6 |
| 12500 | 92.6  | 94.2  | 95.0  | 94.8  | 94.6  | 96.6  | 97.7  | 99.6  | 100.9 | 102.0 | 100.8 | 97.1  | 91.4  | 142.5 |
| 16000 | 91.6  | 94.9  | 94.4  | 94.6  | 94.8  | 95.8  | 96.9  | 99.0  | 99.8  | 99.8  | 99.0  | 95.1  | 89.9  | 142.7 |
| 20000 | 89.2  | 91.8  | 93.4  | 94.3  | 95.1  | 95.9  | 96.7  | 97.3  | 97.6  | 97.3  | 97.3  | 93.1  | 88.5  | 143.1 |
| 25000 | 86.1  | 89.7  | 91.2  | 92.4  | 93.8  | 95.4  | 95.8  | 95.8  | 96.7  | 95.8  | 93.3  | 90.9  | 85.4  | 144.0 |
| 31500 | 80.6  | 84.9  | 85.4  | 87.0  | 88.5  | 90.8  | 91.1  | 91.4  | 91.9  | 90.9  | 88.9  | 85.7  | 79.2  | 142.3 |
| 40000 | 76.3  | 81.5  | 83.0  | 84.6  | 86.2  | 87.8  | 88.4  | 88.8  | 89.3  | 88.0  | 85.8  | 81.6  | 75.6  | 143.6 |
| 50000 | 72.4  | 77.2  | 79.0  | 80.6  | 82.3  | 84.3  | 84.2  | 85.0  | 85.7  | 84.5  | 81.7  | 77.4  | 70.9  | 144.1 |
| 63000 | 67.7  | 72.6  | 74.1  | 76.2  | 78.2  | 80.6  | 80.1  | 81.9  | 83.3  | 81.2  | 78.1  | 72.9  | 65.6  | 145.9 |
| 80000 | 59.9  | 68.3  | 70.1  | 71.7  | 73.2  | 75.9  | 74.5  | 75.5  | 78.0  | 78.0  | 73.6  | 66.3  | 57.3  | 147.8 |
| GASPL | 101.0 | 103.2 | 103.6 | 104.3 | 105.1 | 106.5 | 108.4 | 110.0 | 111.4 | 113.1 | 112.9 | 112.8 | 112.8 | 155.6 |
| PNL   | 111.1 | 113.0 | 113.7 | 114.7 | 115.7 | 117.1 | 119.5 | 121.5 | 123.1 | 124.9 | 123.5 | 120.6 | 118.9 |       |
| PNLT  | 111.8 | 113.5 | 113.7 | 114.7 | 115.7 | 117.1 | 120.7 | 121.5 | 123.1 | 124.9 | 123.5 | 120.6 | 118.9 |       |
| DBA   | 97.2  | 99.4  | 100.2 | 101.1 | 102.0 | 103.6 | 105.9 | 108.1 | 109.8 | 111.6 | 110.3 | 108.1 | 105.4 |       |

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NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH227 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1642.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2135.4 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-0408 TAPE = X0408C TEST PT NO = 0408 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0408 X0408F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 85.0  | 86.4  | 84.8  | 84.4  | 83.9  | 83.8  | 85.3  | 84.3  | 87.5  | 92.1  | 96.0  | 99.9  | 101.9 | 134.1 |
| 315   | 85.0  | 86.4  | 84.8  | 84.4  | 85.5  | 85.1  | 89.0  | 85.9  | 88.0  | 93.8  | 97.3  | 101.2 | 101.7 | 135.0 |
| 400   | 87.7  | 86.4  | 84.5  | 85.0  | 85.5  | 84.5  | 95.4  | 85.6  | 89.3  | 94.6  | 97.8  | 100.9 | 100.4 | 135.4 |
| 500   | 85.7  | 87.4  | 86.5  | 86.0  | 85.8  | 85.4  | 87.2  | 86.9  | 90.5  | 96.4  | 97.6  | 100.5 | 99.5  | 134.9 |
| 630   | 86.4  | 86.9  | 86.3  | 86.1  | 86.3  | 86.4  | 86.9  | 88.1  | 93.4  | 98.0  | 99.5  | 100.2 | 99.7  | 135.8 |
| 800   | 85.6  | 87.4  | 87.5  | 86.9  | 87.2  | 87.5  | 88.4  | 90.1  | 94.7  | 98.2  | 98.7  | 98.9  | 99.5  | 135.7 |
| 1000  | 86.6  | 87.7  | 88.3  | 87.8  | 88.0  | 87.9  | 88.8  | 90.5  | 94.6  | 97.6  | 97.7  | 95.5  | 98.1  | 134.9 |
| 1250  | 89.1  | 88.2  | 89.1  | 88.6  | 88.6  | 89.1  | 90.4  | 90.9  | 96.4  | 97.5  | 97.3  | 93.0  | 97.0  | 135.1 |
| 1600  | 89.0  | 92.2  | 90.3  | 89.5  | 91.2  | 91.1  | 92.2  | 92.7  | 96.3  | 97.6  | 95.8  | 91.9  | 96.5  | 135.5 |
| 2000  | 92.0  | 93.2  | 92.9  | 92.0  | 91.0  | 90.5  | 92.6  | 93.1  | 97.6  | 98.3  | 95.1  | 91.0  | 94.6  | 136.1 |
| 2500  | 92.5  | 91.7  | 92.1  | 91.6  | 92.6  | 92.2  | 93.1  | 95.1  | 98.0  | 98.7  | 86.2  | 91.0  | 93.8  | 136.7 |
| 3150  | 92.9  | 93.1  | 93.0  | 92.8  | 93.3  | 94.2  | 95.1  | 96.0  | 100.3 | 99.7  | 85.7  | 91.5  | 94.5  | 138.0 |
| 4000  | 93.5  | 94.1  | 93.5  | 93.4  | 94.9  | 95.5  | 96.3  | 98.1  | 101.5 | 101.3 | 88.5  | 93.8  | 96.0  | 139.6 |
| 5000  | 93.3  | 93.9  | 94.3  | 94.6  | 96.6  | 97.3  | 98.2  | 99.1  | 102.2 | 103.1 | 100.4 | 96.8  | 97.7  | 141.1 |
| 6300  | 95.3  | 96.3  | 96.2  | 96.3  | 98.1  | 98.5  | 99.2  | 100.4 | 103.2 | 104.3 | 102.6 | 99.5  | 101.6 | 142.8 |
| 8000  | 95.5  | 97.3  | 97.5  | 97.6  | 97.4  | 98.7  | 99.6  | 100.7 | 103.7 | 105.8 | 104.7 | 102.8 | 104.4 | 144.4 |
| 10000 | 95.7  | 98.3  | 98.0  | 97.4  | 99.0  | 99.8  | 100.5 | 101.1 | 103.9 | 104.9 | 104.3 | 104.0 | 105.4 | 145.2 |
| 12500 | 97.1  | 99.6  | 99.2  | 98.7  | 98.7  | 99.6  | 100.0 | 100.9 | 103.7 | 103.6 | 103.5 | 102.8 | 104.8 | 145.7 |
| 16000 | 98.9  | 99.8  | 99.7  | 98.5  | 98.9  | 98.8  | 99.3  | 100.6 | 102.2 | 101.7 | 102.0 | 100.7 | 103.0 | 146.2 |
| 20000 | 97.3  | 100.0 | 98.6  | 97.9  | 99.1  | 98.9  | 99.1  | 99.1  | 102.2 | 101.2 | 99.3  | 100.0 | 101.5 | 147.3 |
| 25000 | 94.5  | 96.4  | 97.1  | 97.0  | 97.6  | 98.4  | 98.3  | 97.7  | 98.0  | 96.9  | 95.7  | 95.9  | 96.7  | 147.2 |
| 31500 | 90.6  | 93.5  | 94.1  | 94.3  | 93.1  | 93.8  | 93.5  | 93.1  | 96.1  | 94.7  | 93.3  | 92.8  | 94.2  | 146.9 |
| 40000 | 87.1  | 90.1  | 89.2  | 89.2  | 90.8  | 90.8  | 90.8  | 90.5  | 92.3  | 91.0  | 89.0  | 88.3  | 89.6  | 147.4 |
| 50000 | 82.4  | 86.3  | 86.4  | 86.4  | 86.9  | 87.3  | 86.5  | 86.4  | 89.8  | 87.3  | 84.4  | 82.2  | 81.8  | 148.0 |
| 63000 | 77.6  | 81.1  | 81.5  | 81.5  | 82.8  | 83.6  | 82.0  | 82.5  | 86.0  | 85.5  | 81.4  | 77.0  | 74.9  | 149.4 |
| 80000 | 71.4  | 75.0  | 75.1  | 75.6  | 77.8  | 78.9  | 76.4  | 76.1  | 78.2  | 75.7  | 71.6  | 67.2  | 65.1  | 149.4 |
| 8ASPL | 106.8 | 108.4 | 108.2 | 107.8 | 108.5 | 109.0 | 109.7 | 110.4 | 113.3 | 114.1 | 113.2 | 112.6 | 114.0 | 158.3 |
| PNL   | 116.3 | 117.2 | 117.0 | 116.9 | 118.1 | 118.5 | 119.6 | 120.4 | 123.8 | 125.0 | 123.7 | 121.5 | 123.2 |       |
| PNLT  | 116.3 | 117.2 | 117.0 | 116.9 | 118.1 | 118.5 | 120.8 | 120.4 | 123.8 | 125.0 | 123.7 | 121.5 | 123.2 |       |
| DBA   | 193.4 | 197.0 | 197.1 | 197.5 | 199.4 | 200.3 | 198.1 | 198.1 | 199.7 | 199.0 | 195.0 | 191.1 | 189.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|          |   |        |           |   |          |          |   |              |          |   |         |            |   |       |         |   |            |
|----------|---|--------|-----------|---|----------|----------|---|--------------|----------|---|---------|------------|---|-------|---------|---|------------|
| VEHICL   | = | ADH227 | TEST DATE | = | 08-17-82 | LOCAT    | = | C41 ANECH CH | CONFIG   | = | 4       | MODEL      | = | AX    | FLTVEL  | = | 400. FPS   |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F   | = | 83.00   | PAMB HG    | = | 29.50 | RELHUM  | = | 65.9 PCT   |
| WIND DIR | = |        | DEG       |   |          | WIND VEL | = | MPH          | EXT DIST | = | 40.0 FT | EXT CONFIG | = | ARC   | MIKE HT | = |            |
| FNIN1    | = | LBS    | XNL       | = |          | RPM      |   |              | XNH      | = |         | RPM        |   |       | V8      | = | 1642.3 FPS |
| FNRAMB   | = | LBS    | XNLR      | = |          | RPM      |   |              | XNHR     | = |         | RPM        |   |       | V18     | = | 2135.4 FPS |
|          |   |        |           |   |          |          |   |              |          |   |         | AE8        | = |       |         | = | 4.0 SQ IN  |
|          |   |        |           |   |          |          |   |              |          |   |         | AE18       | = |       |         | = | 20.4 SQ IN |

RUNPT = 82F-400-0408 TAPE = X0408F TEST PT NO = 0408 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0408 X04081

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 65.8 | 66.1 | 65.2 | 66.5 | 67.4 | 66.6 | 77.2 | 67.1 | 70.1 | 74.3 | 75.9 | 76.9 | 73.0 | 153.0 |
| 63    | 63.8 | 67.1 | 67.2 | 67.5 | 67.7 | 67.4 | 69.1 | 68.4 | 71.2 | 76.0 | 75.7 | 76.4 | 72.1 | 152.5 |
| 80    | 64.5 | 66.6 | 67.0 | 67.5 | 68.2 | 68.3 | 68.7 | 69.5 | 74.2 | 77.6 | 77.5 | 76.0 | 72.1 | 153.4 |
| 100   | 63.6 | 66.9 | 68.1 | 68.3 | 69.0 | 69.4 | 70.2 | 71.4 | 75.4 | 77.8 | 76.7 | 74.7 | 71.8 | 153.3 |
| 125   | 64.5 | 67.1 | 68.9 | 69.1 | 69.7 | 69.7 | 70.5 | 71.8 | 75.2 | 77.0 | 75.6 | 71.1 | 70.2 | 152.5 |
| 160   | 66.8 | 67.5 | 69.5 | 69.8 | 70.2 | 70.9 | 71.9 | 72.1 | 76.8 | 76.8 | 75.0 | 68.3 | 68.7 | 152.7 |
| 200   | 68.4 | 71.3 | 70.6 | 70.5 | 72.6 | 72.7 | 73.6 | 73.7 | 76.5 | 76.7 | 73.3 | 66.9 | 67.7 | 153.1 |
| 250   | 69.1 | 72.1 | 72.9 | 72.8 | 72.2 | 71.8 | 73.8 | 73.9 | 77.7 | 77.1 | 72.2 | 65.6 | 65.2 | 153.7 |
| 315   | 69.2 | 70.1 | 71.8 | 72.1 | 73.6 | 73.3 | 74.1 | 75.6 | 77.7 | 77.2 | 72.9 | 65.0 | 63.6 | 154.3 |
| 400   | 69.1 | 71.2 | 72.4 | 73.0 | 74.0 | 75.0 | 75.8 | 76.2 | 79.6 | 77.8 | 71.9 | 64.9 | 63.2 | 155.6 |
| 500   | 69.2 | 71.8 | 72.6 | 73.3 | 75.3 | 76.0 | 76.7 | 78.0 | 80.5 | 79.0 | 74.2 | 68.5 | 63.8 | 157.2 |
| 630   | 68.6 | 71.2 | 73.0 | 74.2 | 76.8 | 77.6 | 78.3 | 78.7 | 80.9 | 80.4 | 75.7 | 68.8 | 64.5 | 158.7 |
| 800   | 70.0 | 73.2 | 74.6 | 75.7 | 77.9 | 78.5 | 79.1 | 79.8 | 81.6 | 81.2 | 77.4 | 70.9 | 67.2 | 160.4 |
| 1000  | 69.8 | 74.0 | 75.7 | 76.8 | 77.1 | 78.6 | 79.3 | 79.9 | 81.9 | 82.4 | 79.0 | 73.5 | 68.8 | 162.0 |
| 1250  | 69.5 | 74.6 | 75.9 | 76.4 | 78.6 | 79.5 | 80.1 | 80.1 | 81.9 | 81.2 | 78.1 | 73.9 | 68.4 | 162.8 |
| 1600  | 70.1 | 75.3 | 76.7 | 77.4 | 78.0 | 79.1 | 79.3 | 79.6 | 81.2 | 79.3 | 76.4 | 71.4 | 65.4 | 163.3 |
| 2000  | 70.9 | 74.9 | 76.9 | 77.0 | 78.0 | 78.2 | 78.4 | 79.0 | 79.4 | 76.8 | 73.9 | 67.6 | 60.7 | 163.8 |
| 2500  | 67.4 | 73.9 | 74.8 | 75.6 | 77.7 | 77.7 | 77.7 | 76.9 | 78.5 | 75.1 | 69.4 | 64.1 | 54.2 | 164.8 |
| 3150  | 61.3 | 67.8 | 71.5 | 73.2 | 74.8 | 75.9 | 75.5 | 73.9 | 72.4 | 68.3 | 62.5 | 55.0 | 41.1 | 164.8 |
| 4000  | 51.2 | 60.2 | 64.7 | 67.2 | 67.3 | 68.5 | 67.7 | 66.1 | 66.6 | 61.4 | 53.9 | 42.9 | 24.1 | 164.5 |
| 5000  | 37.9 | 49.3 | 53.6 | 56.7 | 60.0 | 60.6 | 60.1 | 58.0 | 56.7 | 50.2 | 39.8 | 24.8 |      | 165.0 |
| 6300  | 15.4 | 31.3 | 38.6 | 43.1 | 46.0 | 47.2 | 45.7 | 43.1 | 42.1 | 32.2 | 17.4 |      |      | 165.6 |
| 8000  |      | 1.2  | 12.4 | 19.0 | 23.9 | 25.8 | 23.0 | 20.0 | 16.9 | 5.6  |      |      |      | 167.0 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 167.0 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |      |      |      |      |      |      |       |      |      |      |      |       |
|-------|------|------|------|------|------|------|------|------|-------|------|------|------|------|-------|
| CASPL | 80.8 | 84.5 | 85.9 | 86.5 | 87.9 | 88.6 | 89.3 | 89.4 | 91.5  | 91.1 | 88.2 | 84.6 | 81.1 | 175.8 |
| PNL   | 90.3 | 95.0 | 96.4 | 97.3 | 98.9 | 99.3 | 99.6 | 99.3 | 101.0 | 99.1 | 95.5 | 90.1 | 84.9 |       |
| PNLT  | 91.3 | 95.6 | 97.1 | 97.9 | 98.9 | 99.3 | 99.6 | 99.3 | 101.5 | 99.1 | 95.5 | 90.1 | 84.9 |       |
| DBA   | 79.1 | 83.5 | 85.2 | 85.9 | 87.3 | 88.1 | 88.4 | 88.6 | 90.2  | 89.1 | 85.5 | 80.0 | 75.1 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH227 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1642.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2135.4 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-0408 TAPE = X04081 TEST PT NO = 0408 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEC. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0409 X0409C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3 | 82.6 | 80.1 | 78.4 | 81.2 | 79.6 | 78.7  | 80.6  | 82.6  | 82.4  | 87.8  | 88.7  | 89.9  | 125.3 |
| 63    | 88.7 | 90.2 | 85.2 | 83.3 | 88.4 | 86.5 | 85.6  | 87.8  | 88.7  | 87.3  | 91.2  | 91.9  | 93.3  | 130.5 |
| 80    | 85.2 | 90.0 | 87.0 | 87.8 | 87.1 | 89.2 | 89.9  | 89.5  | 90.7  | 90.6  | 91.4  | 94.9  | 97.3  | 132.5 |
| 100   | 86.0 | 91.8 | 87.3 | 89.3 | 90.2 | 89.8 | 90.4  | 92.6  | 91.0  | 93.6  | 86.0  | 98.9  | 101.3 | 135.2 |
| 125   | 82.4 | 86.4 | 88.7 | 90.0 | 90.6 | 91.0 | 91.6  | 92.2  | 92.2  | 95.0  | 89.4  | 102.6 | 104.3 | 137.4 |
| 160   | 83.9 | 81.0 | 86.0 | 84.8 | 87.1 | 87.2 | 93.1  | 89.8  | 90.5  | 95.3  | 100.4 | 103.6 | 106.8 | 138.3 |
| 200   | 84.6 | 83.6 | 84.9 | 85.9 | 88.0 | 90.1 | 91.5  | 91.7  | 95.1  | 96.9  | 101.6 | 106.3 | 108.7 | 140.2 |
| 250   | 83.5 | 87.1 | 87.3 | 88.1 | 88.0 | 89.6 | 92.5  | 94.6  | 95.6  | 101.9 | 106.8 | 110.0 | 110.9 | 143.6 |
| 315   | 84.6 | 87.4 | 86.7 | 88.0 | 90.1 | 91.9 | 95.1  | 94.7  | 97.4  | 103.2 | 107.1 | 111.1 | 111.5 | 144.4 |
| 400   | 83.7 | 87.0 | 88.0 | 88.3 | 90.2 | 90.5 | 100.7 | 95.6  | 99.0  | 105.3 | 109.2 | 112.2 | 111.6 | 145.7 |
| 500   | 84.7 | 87.0 | 88.3 | 89.6 | 90.4 | 91.8 | 94.2  | 96.1  | 99.8  | 105.6 | 109.0 | 111.9 | 111.6 | 145.5 |
| 630   | 84.9 | 88.0 | 89.2 | 90.3 | 91.4 | 93.0 | 93.9  | 96.8  | 99.2  | 105.8 | 108.7 | 111.1 | 111.3 | 145.1 |
| 800   | 86.7 | 88.7 | 90.5 | 90.8 | 92.1 | 93.5 | 95.4  | 98.3  | 100.8 | 105.3 | 108.0 | 109.6 | 109.5 | 144.3 |
| 1000  | 89.9 | 89.7 | 91.7 | 90.8 | 92.6 | 94.0 | 95.4  | 98.3  | 101.2 | 104.8 | 105.4 | 106.6 | 107.0 | 142.6 |
| 1250  | 88.8 | 92.3 | 92.3 | 93.2 | 93.7 | 95.3 | 97.0  | 98.9  | 101.6 | 104.7 | 104.3 | 104.2 | 105.0 | 142.0 |
| 1600  | 88.0 | 92.2 | 92.6 | 93.2 | 94.7 | 95.8 | 97.4  | 99.0  | 101.9 | 103.4 | 103.3 | 102.5 | 102.2 | 141.2 |
| 2000  | 89.0 | 90.9 | 92.3 | 93.2 | 94.6 | 95.2 | 96.9  | 99.2  | 101.8 | 102.9 | 101.6 | 101.0 | 99.7  | 140.5 |
| 2500  | 89.0 | 92.0 | 92.6 | 93.8 | 95.2 | 96.6 | 97.3  | 101.4 | 103.0 | 104.3 | 101.3 | 100.9 | 99.1  | 141.5 |
| 3150  | 88.9 | 91.9 | 93.2 | 93.7 | 95.1 | 97.1 | 99.0  | 101.0 | 103.3 | 104.1 | 102.9 | 100.8 | 100.6 | 141.9 |
| 4000  | 88.8 | 91.7 | 93.6 | 94.3 | 96.2 | 97.4 | 99.0  | 102.4 | 104.5 | 104.7 | 103.7 | 103.2 | 102.2 | 143.0 |
| 5000  | 90.3 | 93.0 | 94.1 | 95.3 | 96.6 | 98.1 | 100.4 | 103.0 | 104.7 | 106.3 | 106.4 | 105.2 | 104.7 | 144.5 |
| 6300  | 91.4 | 94.5 | 95.6 | 96.2 | 98.0 | 99.0 | 101.5 | 103.9 | 105.9 | 107.3 | 107.9 | 106.9 | 106.1 | 145.9 |
| 8000  | 93.0 | 96.4 | 96.7 | 97.4 | 97.8 | 99.1 | 100.8 | 104.2 | 106.1 | 107.7 | 107.7 | 106.0 | 106.4 | 146.4 |
| 10000 | 94.5 | 97.9 | 98.7 | 98.1 | 98.5 | 99.7 | 101.0 | 102.9 | 104.8 | 106.9 | 106.6 | 105.6 | 105.6 | 146.3 |
| 12500 | 95.3 | 97.4 | 99.2 | 99.5 | 98.6 | 99.3 | 99.6  | 102.0 | 103.3 | 103.4 | 104.2 | 103.3 | 103.3 | 145.6 |
| 16000 | 93.0 | 96.8 | 97.5 | 99.4 | 99.3 | 99.0 | 99.3  | 100.6 | 101.6 | 101.7 | 102.4 | 101.1 | 100.4 | 145.7 |
| 20000 | 90.8 | 93.1 | 95.5 | 97.4 | 97.9 | 98.7 | 98.0  | 98.1  | 98.9  | 98.7  | 100.6 | 98.7  | 98.3  | 145.4 |
| 25000 | 88.1 | 91.2 | 93.2 | 94.9 | 96.3 | 98.2 | 97.1  | 91.1  | 98.0  | 97.5  | 98.0  | 96.9  | 92.7  | 145.9 |
| 31500 | 82.0 | 86.3 | 88.1 | 90.4 | 91.4 | 93.0 | 92.0  | 85.1  | 93.1  | 93.7  | 84.1  | 91.9  | 87.2  | 144.3 |
| 40000 | 78.4 | 83.2 | 85.7 | 87.2 | 89.0 | 90.4 | 89.7  | 82.8  | 91.5  | 92.4  | 92.3  | 89.2  | 84.1  | 146.1 |
| 50000 | 75.1 | 80.0 | 82.4 | 84.0 | 86.0 | 87.7 | 86.7  | 79.9  | 89.5  | 91.0  | 90.1  | 87.4  | 81.6  | 148.1 |
| 63000 | 70.8 | 77.5 | 79.8 | 80.1 | 83.5 | 84.9 | 83.1  | 77.9  | 88.0  | 90.6  | 90.3  | 85.2  | 77.9  | 151.9 |
| 80000 | 65.7 | 74.2 | 77.0 | 76.4 | 80.2 | 81.6 | 79.0  | 75.5  | 85.7  | 88.6  | 88.8  | 80.3  | 72.9  | 156.3 |

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OASPL 103.9 106.8 107.7 108.5 109.3 110.4 111.9 113.7 115.8 118.1 119.4 120.9 121.1 161.2  
PNL 114.5 117.4 118.3 118.9 120.4 121.7 123.7 126.0 128.2 130.1 130.8 130.9 130.7  
PNLT 114.5 118.0 118.3 118.9 120.4 121.7 124.7 126.0 128.2 130.1 130.8 130.9 130.7  
DBA 101.3 104.2 105.1 105.7 107.0 108.3 110.2 112.7 114.9 116.9 117.4 118.1 118.0

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH220     | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00       | PAMB HG = 29.45   | RELHUM = 75.7 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1656.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRMB =              | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2209.7 FPS | AE18 = 20.4 SQ IN |                   |
| RUNPT = 82F-ZER-0409 | TAPE = X0409C        | TEST PT NO = 0409      | NC = AE058           | CORR FAN SPEED =  | RPM               |



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0409 X0409F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3  | 82.6  | 80.1  | 78.4  | 81.2  | 79.6  | 78.7  | 80.6  | 82.6  | 82.4  | 87.8  | 88.7  | 89.9  | 125.3 |
| 63    | 88.7  | 90.2  | 85.2  | 83.3  | 88.4  | 86.5  | 85.6  | 87.8  | 88.7  | 87.3  | 91.2  | 91.9  | 93.3  | 130.5 |
| 80    | 85.2  | 90.0  | 87.0  | 87.8  | 87.1  | 89.2  | 89.9  | 89.5  | 90.7  | 90.6  | 91.4  | 94.9  | 97.3  | 132.5 |
| 100   | 86.0  | 91.8  | 87.3  | 89.3  | 90.2  | 89.8  | 90.4  | 92.6  | 91.0  | 93.6  | 96.0  | 98.9  | 101.3 | 135.2 |
| 125   | 82.4  | 86.4  | 88.7  | 90.0  | 90.6  | 91.0  | 91.6  | 92.2  | 92.2  | 95.0  | 99.4  | 102.6 | 104.3 | 137.4 |
| 160   | 83.9  | 81.0  | 86.0  | 84.8  | 87.1  | 87.2  | 93.1  | 89.8  | 90.5  | 95.3  | 100.4 | 103.6 | 106.8 | 138.3 |
| 200   | 84.6  | 83.6  | 84.9  | 85.9  | 88.0  | 90.1  | 91.5  | 91.7  | 95.1  | 96.9  | 101.6 | 106.3 | 108.7 | 140.2 |
| 250   | 83.5  | 87.1  | 87.3  | 88.1  | 88.0  | 89.6  | 92.5  | 94.6  | 95.6  | 101.9 | 106.8 | 110.0 | 110.9 | 143.6 |
| 315   | 84.6  | 87.4  | 86.7  | 88.0  | 90.1  | 91.9  | 95.1  | 94.7  | 97.4  | 103.2 | 107.1 | 111.1 | 111.5 | 144.4 |
| 400   | 83.7  | 87.0  | 88.0  | 88.3  | 90.2  | 90.5  | 100.7 | 95.6  | 99.0  | 105.3 | 109.2 | 112.2 | 111.6 | 145.7 |
| 500   | 84.7  | 87.0  | 88.3  | 89.6  | 90.4  | 91.8  | 94.2  | 96.1  | 99.8  | 105.6 | 109.0 | 111.9 | 111.6 | 145.5 |
| 630   | 84.9  | 88.0  | 89.2  | 90.3  | 91.4  | 93.0  | 93.9  | 96.8  | 99.2  | 105.8 | 108.7 | 111.1 | 111.3 | 145.1 |
| 800   | 86.7  | 88.7  | 90.5  | 90.8  | 92.1  | 93.5  | 95.4  | 98.3  | 100.8 | 105.3 | 108.0 | 109.6 | 109.5 | 144.3 |
| 1000  | 89.9  | 89.7  | 91.7  | 90.8  | 92.6  | 94.0  | 95.4  | 98.3  | 101.2 | 104.8 | 105.4 | 106.6 | 107.0 | 142.6 |
| 1250  | 88.8  | 92.3  | 92.3  | 93.2  | 93.7  | 95.3  | 97.0  | 98.9  | 101.6 | 104.7 | 104.3 | 104.2 | 105.0 | 142.0 |
| 1600  | 88.0  | 92.2  | 92.6  | 93.2  | 94.7  | 95.8  | 97.4  | 99.0  | 101.9 | 103.4 | 103.3 | 102.5 | 102.2 | 141.2 |
| 2000  | 89.0  | 90.9  | 92.3  | 93.2  | 94.6  | 95.2  | 96.9  | 99.2  | 101.8 | 102.9 | 101.6 | 101.0 | 99.7  | 140.5 |
| 2500  | 89.0  | 92.0  | 92.6  | 93.8  | 95.2  | 96.6  | 97.3  | 101.4 | 103.0 | 104.3 | 101.3 | 100.9 | 99.1  | 141.5 |
| 3150  | 88.9  | 91.9  | 93.2  | 93.7  | 95.1  | 97.1  | 99.0  | 101.0 | 103.3 | 104.1 | 102.9 | 100.8 | 100.6 | 141.9 |
| 4000  | 88.8  | 91.7  | 93.6  | 94.3  | 96.2  | 97.4  | 99.0  | 102.4 | 104.5 | 104.7 | 103.7 | 103.2 | 102.2 | 143.0 |
| 5000  | 90.3  | 93.0  | 94.1  | 95.3  | 96.6  | 98.1  | 100.4 | 103.0 | 104.7 | 106.3 | 106.4 | 105.2 | 104.7 | 144.5 |
| 6300  | 91.4  | 94.5  | 95.6  | 96.2  | 98.0  | 99.0  | 101.5 | 103.9 | 105.9 | 107.3 | 107.9 | 106.9 | 106.1 | 145.9 |
| 8000  | 93.0  | 96.4  | 96.7  | 97.4  | 97.8  | 99.1  | 100.8 | 104.2 | 106.1 | 107.7 | 107.7 | 106.0 | 106.4 | 146.4 |
| 10000 | 94.5  | 97.9  | 98.7  | 98.1  | 98.5  | 99.7  | 101.0 | 102.9 | 104.8 | 106.9 | 106.6 | 105.6 | 105.6 | 146.3 |
| 12500 | 95.3  | 97.4  | 99.2  | 99.5  | 98.6  | 99.3  | 99.6  | 102.0 | 103.3 | 103.4 | 104.2 | 103.3 | 103.3 | 145.6 |
| 16000 | 93.0  | 96.8  | 97.5  | 99.4  | 99.3  | 99.0  | 99.3  | 100.6 | 101.6 | 101.7 | 102.4 | 101.1 | 100.4 | 145.7 |
| 20000 | 90.8  | 93.1  | 95.5  | 97.4  | 97.9  | 98.7  | 98.0  | 98.1  | 98.9  | 98.7  | 100.6 | 98.7  | 98.3  | 145.4 |
| 25000 | 88.1  | 91.2  | 93.2  | 94.9  | 96.3  | 98.2  | 97.1  | 91.1  | 98.0  | 97.5  | 98.0  | 96.9  | 92.7  | 145.9 |
| 31500 | 82.0  | 86.3  | 88.1  | 90.4  | 91.4  | 93.0  | 92.0  | 85.1  | 93.1  | 93.7  | 94.1  | 91.9  | 87.2  | 144.3 |
| 40000 | 78.4  | 83.2  | 85.7  | 87.2  | 89.0  | 90.4  | 89.7  | 82.8  | 91.5  | 92.4  | 92.3  | 89.2  | 84.1  | 146.1 |
| 50000 | 75.1  | 80.0  | 82.4  | 84.0  | 86.0  | 87.7  | 86.7  | 79.9  | 89.5  | 91.0  | 90.1  | 87.4  | 81.6  | 148.1 |
| 63000 | 70.8  | 77.5  | 79.8  | 80.1  | 83.5  | 84.9  | 83.1  | 77.9  | 88.0  | 90.6  | 90.3  | 85.2  | 77.9  | 151.9 |
| 80000 | 65.7  | 74.2  | 77.0  | 76.4  | 80.2  | 81.6  | 79.0  | 75.5  | 85.7  | 88.6  | 88.8  | 80.3  | 72.9  | 156.3 |
| OASPL | 103.9 | 106.8 | 107.7 | 108.5 | 109.3 | 110.4 | 111.9 | 113.7 | 115.8 | 118.1 | 119.4 | 120.9 | 121.1 | 161.2 |
| PNL   | 114.5 | 117.4 | 118.3 | 118.9 | 120.4 | 121.7 | 123.7 | 126.0 | 128.2 | 130.1 | 130.8 | 130.9 | 130.7 |       |
| PNLT  | 114.5 | 118.0 | 118.3 | 118.9 | 120.4 | 121.7 | 124.7 | 126.0 | 128.2 | 130.1 | 130.8 | 130.9 | 130.7 |       |
| DBA   | 187.2 | 195.2 | 197.9 | 197.6 | 201.2 | 202.6 | 200.2 | 196.3 | 206.5 | 209.3 | 209.4 | 201.7 | 194.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                      |                   |                   |
|-----------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH220 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00       | PAMB HG = 29.45   | RELHUM = 75.7 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1656.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2209.7 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-ZER-0409 TAPE = X0409F TEST PT NO = 0409 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0409 X04091

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|------|------|------|-------|
| 50    | 61.9 | 66.7 | 68.8 | 69.8 | 72.0 | 72.5  | 82.5  | 77.0  | 79.8  | 85.0  | 87.4 | 88.1 | 84.2 | 163.3 |
| 63    | 62.9 | 66.7 | 69.0 | 71.0 | 72.3 | 73.8  | 76.0  | 77.5  | 80.5  | 85.3  | 87.1 | 87.9 | 84.2 | 163.1 |
| 80    | 63.0 | 67.6 | 69.9 | 71.7 | 73.2 | 74.9  | 75.7  | 78.2  | 79.9  | 85.4  | 86.8 | 87.0 | 83.7 | 162.7 |
| 100   | 64.7 | 68.3 | 71.2 | 72.2 | 73.9 | 75.4  | 77.2  | 79.7  | 81.4  | 84.9  | 86.0 | 85.4 | 81.8 | 161.9 |
| 125   | 67.8 | 69.2 | 72.3 | 72.1 | 74.3 | 75.8  | 77.1  | 79.6  | 81.8  | 84.3  | 83.3 | 82.2 | 79.1 | 160.2 |
| 160   | 66.5 | 71.6 | 72.8 | 74.4 | 75.3 | 77.1  | 78.5  | 80.0  | 82.0  | 84.0  | 82.0 | 79.6 | 76.7 | 159.6 |
| 200   | 65.5 | 71.3 | 72.9 | 74.2 | 76.2 | 77.4  | 78.9  | 80.0  | 82.1  | 82.5  | 80.8 | 77.5 | 73.5 | 158.8 |
| 250   | 66.1 | 69.8 | 72.4 | 74.0 | 75.8 | 76.6  | 78.2  | 80.0  | 81.9  | 81.7  | 78.8 | 75.6 | 70.3 | 158.1 |
| 315   | 65.7 | 70.5 | 72.3 | 74.3 | 76.2 | 77.7  | 78.2  | 81.9  | 82.7  | 82.8  | 78.0 | 74.9 | 68.9 | 159.1 |
| 400   | 65.1 | 70.0 | 72.6 | 73.9 | 75.7 | 78.0  | 79.7  | 81.2  | 82.7  | 82.2  | 79.1 | 74.2 | 69.3 | 159.5 |
| 500   | 64.5 | 69.4 | 72.6 | 74.2 | 76.6 | 78.0  | 79.4  | 82.3  | 83.5  | 82.4  | 79.4 | 76.0 | 70.0 | 160.6 |
| 630   | 65.5 | 70.3 | 72.8 | 74.9 | 76.7 | 78.3  | 80.6  | 82.6  | 83.4  | 83.6  | 81.7 | 77.3 | 71.5 | 162.1 |
| 800   | 66.2 | 71.4 | 74.0 | 75.5 | 77.9 | 79.0  | 81.4  | 83.3  | 84.3  | 84.2  | 82.6 | 78.3 | 71.7 | 163.5 |
| 1000  | 67.3 | 73.0 | 74.8 | 76.6 | 77.6 | 79.1  | 80.6  | 83.3  | 84.3  | 84.3  | 82.0 | 76.7 | 70.8 | 164.0 |
| 1250  | 68.3 | 74.2 | 76.6 | 77.1 | 78.1 | 79.5  | 80.6  | 81.9  | 82.7  | 83.1  | 80.4 | 75.5 | 68.6 | 163.9 |
| 1600  | 68.2 | 73.1 | 76.7 | 78.1 | 77.9 | 78.8  | 78.9  | 80.7  | 80.8  | 79.1  | 77.1 | 71.9 | 64.0 | 163.2 |
| 2000  | 64.9 | 71.9 | 74.6 | 77.8 | 78.4 | 78.4  | 78.4  | 79.1  | 78.8  | 76.8  | 74.4 | 68.0 | 58.0 | 163.3 |
| 2500  | 61.0 | 67.0 | 71.8 | 75.1 | 76.5 | 77.6  | 76.6  | 75.9  | 75.2  | 72.5  | 70.8 | 62.8 | 51.1 | 163.0 |
| 3150  | 54.9 | 62.6 | 67.6 | 71.1 | 73.6 | 75.7  | 74.3  | 67.3  | 72.4  | 69.0  | 64.8 | 56.0 | 37.0 | 163.5 |
| 4000  | 42.6 | 53.0 | 58.6 | 63.3 | 65.7 | 67.7  | 66.3  | 58.0  | 63.6  | 60.4  | 54.6 | 42.1 | 17.0 | 161.9 |
| 5000  | 29.2 | 42.4 | 50.1 | 54.7 | 58.3 | 60.2  | 59.0  | 50.3  | 55.9  | 51.5  | 43.1 | 25.7 |      | 163.7 |
| 6300  | 8.1  | 24.9 | 34.6 | 40.7 | 45.1 | 47.6  | 45.8  | 36.6  | 41.8  | 35.9  | 23.1 |      |      | 165.7 |
| 8000  |      |      | 10.7 | 17.6 | 24.6 | 27.1  | 24.2  | 15.3  | 18.9  | 10.7  |      |      |      | 169.5 |
| 10000 |      |      |      |      |      |       |       |       |       |       |      |      |      | 173.9 |
| 12500 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 16000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 20000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 25000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 31500 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 40000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 50000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 63000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| 80000 |      |      |      |      |      |       |       |       |       |       |      |      |      |       |
| OASPL | 78.3 | 83.2 | 85.8 | 87.5 | 88.9 | 90.2  | 91.8  | 93.3  | 94.6  | 95.8  | 95.3 | 94.4 | 90.6 | 178.6 |
| PNL   | 86.4 | 92.1 | 95.2 | 97.7 | 99.0 | 100.2 | 100.5 | 100.9 | 101.8 | 101.4 | 99.4 | 95.3 | 90.0 |       |
| PNLT  | 86.4 | 92.1 | 95.2 | 98.2 | 99.0 | 100.2 | 100.5 | 100.9 | 101.8 | 101.9 | 99.4 | 95.3 | 90.0 |       |
| DBA   | 75.8 | 81.4 | 84.3 | 86.2 | 87.2 | 88.4  | 89.2  | 90.8  | 91.6  | 91.2  | 88.9 | 84.3 | 78.3 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH220 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1656.9 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2209.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-0409 TAPE = X04091 TEST PT NO = 0409 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0411 X0411C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.0 | 79.1  | 79.1  | 81.4  | 79.0  | 79.1  | 80.7  | 81.1  | 83.8  | 84.7  | 88.3  | 88.7  | 90.9  | 125.8 |
| 63    | 90.2 | 87.0  | 83.0  | 86.3  | 89.1  | 86.7  | 88.4  | 84.5  | 88.2  | 87.3  | 91.4  | 89.6  | 94.5  | 130.5 |
| 80    | 86.4 | 90.7  | 87.5  | 88.3  | 87.4  | 90.2  | 91.1  | 90.3  | 91.5  | 91.1  | 92.2  | 95.4  | 97.3  | 133.1 |
| 100   | 87.2 | 93.3  | 89.0  | 90.6  | 91.9  | 91.3  | 91.4  | 93.8  | 92.3  | 94.6  | 97.0  | 100.2 | 102.6 | 136.5 |
| 125   | 84.2 | 87.4  | 89.5  | 90.5  | 91.8  | 93.2  | 92.6  | 93.7  | 93.2  | 96.3  | 101.2 | 104.3 | 105.5 | 138.9 |
| 160   | 84.7 | 82.3  | 87.2  | 87.3  | 88.1  | 88.5  | 94.9  | 91.3  | 91.5  | 97.0  | 102.2 | 105.1 | 108.0 | 139.8 |
| 200   | 85.6 | 84.4  | 85.9  | 87.2  | 89.0  | 90.6  | 92.5  | 92.9  | 95.9  | 97.4  | 102.8 | 107.0 | 109.7 | 141.2 |
| 250   | 85.0 | 88.1  | 88.3  | 88.6  | 89.0  | 90.1  | 93.0  | 95.4  | 96.3  | 102.1 | 108.0 | 111.0 | 111.4 | 144.4 |
| 315   | 85.1 | 87.9  | 87.4  | 89.0  | 90.8  | 92.4  | 95.6  | 96.0  | 98.4  | 103.7 | 108.6 | 112.3 | 112.7 | 145.6 |
| 400   | 85.0 | 88.0  | 89.0  | 89.6  | 90.7  | 91.8  | 101.2 | 96.1  | 99.5  | 105.8 | 110.5 | 113.9 | 112.8 | 147.0 |
| 500   | 86.2 | 88.3  | 89.3  | 90.3  | 91.7  | 93.0  | 95.2  | 97.1  | 100.6 | 106.1 | 110.8 | 113.9 | 113.1 | 147.1 |
| 630   | 85.9 | 89.2  | 90.2  | 91.5  | 92.9  | 94.2  | 94.6  | 97.8  | 100.2 | 106.5 | 109.9 | 114.1 | 113.3 | 147.1 |
| 800   | 88.4 | 89.5  | 91.5  | 91.8  | 93.1  | 95.0  | 96.1  | 98.8  | 101.8 | 106.1 | 109.0 | 112.6 | 112.0 | 146.1 |
| 1000  | 91.2 | 91.7  | 92.8  | 92.8  | 94.1  | 95.2  | 96.6  | 99.5  | 102.5 | 105.3 | 107.2 | 110.1 | 110.3 | 144.7 |
| 1250  | 91.3 | 94.8  | 93.6  | 95.2  | 96.0  | 97.3  | 99.0  | 100.4 | 102.8 | 105.7 | 106.3 | 108.0 | 108.5 | 144.1 |
| 1600  | 89.5 | 92.4  | 93.6  | 94.5  | 96.0  | 96.9  | 98.2  | 100.7 | 103.6 | 104.7 | 105.1 | 105.7 | 106.5 | 143.2 |
| 2000  | 90.8 | 91.9  | 93.4  | 94.5  | 95.3  | 97.2  | 98.7  | 101.0 | 103.1 | 103.9 | 103.6 | 104.5 | 103.7 | 142.4 |
| 2500  | 90.8 | 93.8  | 94.6  | 95.1  | 96.2  | 98.1  | 99.0  | 102.4 | 104.7 | 105.8 | 103.0 | 103.9 | 102.9 | 143.2 |
| 3150  | 91.4 | 93.7  | 94.5  | 95.0  | 96.3  | 98.1  | 100.5 | 102.5 | 104.3 | 105.4 | 104.2 | 104.1 | 102.8 | 143.4 |
| 4000  | 90.1 | 92.7  | 94.3  | 95.5  | 96.5  | 98.4  | 100.3 | 103.9 | 105.7 | 106.2 | 104.7 | 105.2 | 103.8 | 144.3 |
| 5000  | 91.8 | 94.8  | 95.7  | 96.6  | 97.6  | 99.3  | 101.5 | 104.0 | 106.8 | 107.9 | 107.7 | 107.5 | 106.0 | 146.0 |
| 6300  | 93.2 | 96.3  | 97.1  | 97.4  | 98.5  | 99.7  | 102.0 | 105.4 | 106.9 | 108.3 | 108.6 | 109.2 | 106.2 | 147.0 |
| 8000  | 95.8 | 99.6  | 99.2  | 98.4  | 98.1  | 100.2 | 102.1 | 104.9 | 106.7 | 108.4 | 108.5 | 108.0 | 106.4 | 147.3 |
| 10000 | 97.5 | 101.7 | 102.2 | 101.6 | 100.8 | 101.3 | 101.3 | 103.9 | 105.8 | 107.7 | 107.2 | 107.6 | 105.7 | 147.7 |
| 12500 | 96.9 | 99.7  | 102.8 | 103.0 | 101.4 | 101.4 | 100.9 | 103.1 | 104.4 | 104.5 | 104.5 | 104.9 | 103.7 | 147.2 |
| 16000 | 93.3 | 97.7  | 99.6  | 102.0 | 101.8 | 101.3 | 100.4 | 101.2 | 102.8 | 102.5 | 102.8 | 102.6 | 100.9 | 147.1 |
| 20000 | 92.0 | 94.5  | 96.7  | 99.0  | 100.3 | 100.6 | 99.9  | 99.5  | 100.3 | 100.3 | 100.5 | 100.3 | 99.2  | 146.9 |
| 25000 | 89.1 | 93.4  | 95.5  | 97.1  | 97.6  | 99.4  | 99.3  | 98.5  | 98.7  | 99.3  | 98.5  | 96.9  | 94.7  | 147.8 |
| 31500 | 83.6 | 88.9  | 90.4  | 92.9  | 93.7  | 94.6  | 94.1  | 93.9  | 94.7  | 95.6  | 94.7  | 94.0  | 88.2  | 146.5 |
| 40000 | 80.6 | 86.2  | 89.0  | 90.4  | 91.5  | 92.6  | 92.2  | 92.3  | 92.8  | 94.7  | 92.8  | 91.6  | 85.6  | 148.6 |
| 50000 | 77.9 | 83.4  | 86.3  | 87.3  | 89.5  | 90.5  | 89.0  | 89.3  | 90.9  | 94.3  | 90.7  | 89.9  | 82.4  | 151.0 |
| 63000 | 74.5 | 80.8  | 83.6  | 84.1  | 86.5  | 88.1  | 86.3  | 87.6  | 89.8  | 94.2  | 90.8  | 87.4  | 80.1  | 154.9 |
| 80000 | 68.7 | 78.3  | 81.6  | 81.0  | 83.0  | 84.9  | 82.5  | 83.8  | 87.6  | 92.8  | 90.2  | 84.3  | 74.1  | 159.5 |

CASPL 105.7 108.8 109.9 110.7 110.9 111.9 113.1 115.0 117.0 119.0 120.6 123.0 122.6 163.6

PNL 116.4 119.2 119.7 120.3 121.2 122.8 124.8 127.3 129.4 131.2 131.9 133.2 132.2

PNLT 116.4 119.9 119.7 120.3 121.2 123.4 125.8 127.3 129.4 131.2 131.9 133.2 132.2

DBA 103.3 106.4 106.9 107.3 108.0 109.5 111.3 113.9 116.1 117.9 118.7 120.7 120.0

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VERTCL = ADH221      | TEST DATE = 06-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 83.00       | PAMB HG = 29.45   | RELHUM = 65.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINI =              | LBS XNL =            | RPM XNH =              | RPM VB = 1648.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2310.6 FPS | AE18 = 20.4 SQ IN |                   |
| RUNPT = 82F-ZER-0411 | TAPE = X0411C        | TEST PT NO = 0411      | NC = AE058           | CORR FAN SPEED =  | RPM               |

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0411 X0411F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.0  | 79.1  | 79.1  | 81.4  | 79.0  | 79.1  | 80.7  | 81.1  | 83.8  | 84.7  | 88.3  | 88.7  | 90.9  | 125.8 |
| 63    | 90.2  | 87.0  | 83.0  | 86.3  | 89.1  | 86.7  | 88.4  | 84.5  | 88.2  | 87.3  | 91.4  | 89.6  | 94.5  | 130.5 |
| 80    | 86.4  | 90.7  | 87.5  | 88.3  | 87.4  | 90.2  | 91.1  | 90.3  | 91.5  | 91.1  | 92.2  | 95.4  | 97.3  | 133.1 |
| 100   | 87.2  | 93.3  | 89.0  | 90.6  | 91.9  | 91.3  | 91.4  | 93.8  | 92.3  | 94.6  | 97.0  | 100.2 | 102.6 | 136.5 |
| 125   | 84.2  | 87.4  | 89.5  | 90.5  | 91.8  | 93.2  | 92.6  | 93.7  | 93.2  | 96.3  | 101.2 | 104.3 | 105.5 | 138.9 |
| 160   | 84.7  | 82.5  | 87.2  | 87.3  | 88.1  | 88.5  | 94.9  | 91.3  | 91.5  | 97.0  | 102.2 | 105.1 | 108.0 | 139.8 |
| 200   | 85.6  | 84.4  | 85.9  | 87.2  | 89.0  | 90.6  | 92.5  | 92.9  | 95.9  | 97.4  | 102.8 | 107.0 | 109.7 | 141.2 |
| 250   | 85.0  | 88.1  | 88.3  | 88.6  | 89.0  | 90.1  | 93.0  | 95.4  | 96.3  | 102.1 | 108.0 | 111.0 | 111.4 | 144.4 |
| 315   | 85.1  | 87.9  | 87.4  | 89.0  | 90.8  | 92.4  | 95.6  | 96.0  | 98.4  | 103.7 | 108.6 | 112.3 | 112.7 | 145.6 |
| 400   | 85.0  | 88.0  | 89.0  | 89.6  | 90.7  | 91.8  | 101.2 | 96.1  | 99.5  | 105.8 | 110.5 | 113.9 | 112.8 | 147.0 |
| 500   | 86.2  | 88.3  | 89.3  | 90.3  | 91.7  | 93.0  | 95.2  | 97.1  | 100.6 | 106.1 | 110.8 | 113.9 | 113.1 | 147.1 |
| 630   | 85.9  | 89.2  | 90.2  | 91.5  | 92.9  | 94.2  | 94.6  | 97.8  | 100.2 | 106.5 | 109.9 | 114.1 | 113.3 | 147.1 |
| 800   | 88.4  | 89.5  | 91.5  | 91.8  | 93.1  | 95.0  | 96.1  | 98.8  | 101.8 | 106.1 | 109.0 | 112.6 | 112.0 | 146.1 |
| 1000  | 91.2  | 91.7  | 92.8  | 92.8  | 94.1  | 95.2  | 96.6  | 99.5  | 102.5 | 105.3 | 107.2 | 110.1 | 110.3 | 144.7 |
| 1250  | 91.3  | 94.8  | 93.6  | 95.2  | 96.0  | 97.3  | 99.0  | 100.4 | 102.8 | 105.7 | 106.3 | 108.0 | 108.5 | 144.1 |
| 1600  | 89.5  | 92.4  | 93.6  | 94.5  | 96.0  | 96.9  | 98.2  | 100.7 | 103.6 | 104.7 | 105.1 | 105.7 | 106.5 | 143.2 |
| 2000  | 90.8  | 91.9  | 93.4  | 94.5  | 95.3  | 97.2  | 98.7  | 101.0 | 103.1 | 103.9 | 103.6 | 104.5 | 103.7 | 142.4 |
| 2500  | 90.8  | 93.8  | 94.6  | 95.1  | 96.2  | 98.1  | 99.0  | 102.4 | 104.7 | 105.8 | 103.0 | 103.9 | 102.9 | 143.2 |
| 3150  | 91.4  | 93.7  | 94.5  | 95.0  | 96.3  | 98.1  | 100.5 | 102.5 | 104.3 | 105.4 | 104.2 | 104.1 | 102.8 | 143.4 |
| 4000  | 90.1  | 92.7  | 94.3  | 95.5  | 96.5  | 98.4  | 100.3 | 103.9 | 105.7 | 106.2 | 104.7 | 105.2 | 103.8 | 144.3 |
| 5000  | 91.8  | 94.8  | 95.7  | 96.6  | 97.6  | 99.3  | 101.5 | 104.0 | 106.8 | 107.9 | 107.7 | 107.5 | 106.0 | 146.0 |
| 6300  | 93.2  | 96.3  | 97.1  | 97.4  | 98.5  | 99.7  | 102.0 | 105.4 | 106.9 | 108.3 | 108.6 | 109.2 | 106.2 | 147.0 |
| 8000  | 95.8  | 99.6  | 99.2  | 98.4  | 98.1  | 100.2 | 102.1 | 104.9 | 106.7 | 108.4 | 108.5 | 108.0 | 106.4 | 147.3 |
| 10000 | 97.5  | 101.7 | 102.2 | 101.6 | 100.8 | 101.3 | 101.3 | 103.9 | 105.8 | 107.7 | 107.2 | 107.6 | 105.7 | 147.7 |
| 12500 | 96.9  | 99.7  | 102.8 | 103.0 | 101.4 | 101.4 | 100.9 | 103.1 | 104.4 | 104.5 | 104.5 | 104.9 | 103.7 | 147.2 |
| 16000 | 93.3  | 97.7  | 99.6  | 102.0 | 101.8 | 101.3 | 100.4 | 101.2 | 102.8 | 102.5 | 102.8 | 102.6 | 100.9 | 147.1 |
| 20000 | 92.0  | 94.5  | 96.7  | 99.0  | 100.3 | 100.6 | 99.9  | 99.5  | 100.3 | 100.3 | 100.5 | 100.3 | 99.2  | 146.9 |
| 25000 | 89.1  | 93.4  | 95.5  | 97.1  | 97.6  | 99.4  | 99.3  | 98.5  | 98.7  | 99.3  | 98.5  | 98.9  | 94.7  | 147.8 |
| 31500 | 83.6  | 88.9  | 90.4  | 92.9  | 93.7  | 94.6  | 94.1  | 93.9  | 94.7  | 95.6  | 94.7  | 94.0  | 88.2  | 146.5 |
| 40000 | 80.6  | 86.2  | 89.0  | 90.4  | 91.5  | 92.6  | 92.2  | 92.3  | 92.8  | 94.7  | 92.8  | 91.6  | 85.6  | 148.6 |
| 50000 | 77.9  | 83.4  | 86.3  | 87.3  | 89.5  | 90.5  | 89.0  | 89.3  | 90.9  | 94.3  | 80.7  | 89.9  | 82.4  | 151.0 |
| 63000 | 74.5  | 80.8  | 83.6  | 84.1  | 86.5  | 88.1  | 86.3  | 87.6  | 89.8  | 94.2  | 90.8  | 87.4  | 80.1  | 154.9 |
| 80000 | 68.7  | 78.3  | 81.6  | 81.0  | 83.0  | 84.9  | 82.5  | 83.8  | 87.6  | 92.8  | 90.2  | 84.3  | 74.1  | 159.5 |
| GASPL | 105.7 | 108.8 | 109.9 | 110.7 | 110.9 | 111.9 | 113.1 | 115.0 | 117.0 | 119.0 | 120.6 | 123.0 | 122.6 | 163.6 |
| PNL   | 116.4 | 119.2 | 119.7 | 120.3 | 121.2 | 122.8 | 124.8 | 127.3 | 129.4 | 131.2 | 131.9 | 133.2 | 132.2 |       |
| PNLT  | 116.4 | 119.9 | 119.7 | 120.3 | 121.2 | 123.4 | 125.8 | 127.3 | 129.4 | 131.2 | 131.9 | 133.2 | 132.2 |       |
| DBA   | 190.4 | 199.2 | 202.4 | 202.0 | 204.1 | 205.9 | 203.6 | 204.9 | 208.3 | 213.4 | 210.7 | 205.3 | 195.8 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH221 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1648.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2310.6 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0411 TAPE = X0411F TEST PT NO = 0411 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0411 X04111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 63.1 | 67.7 | 69.8 | 71.0 | 72.5  | 73.8  | 83.0  | 77.5  | 80.3  | 85.5  | 88.6  | 89.9 | 85.4 | 164.6 |
| 63    | 64.4 | 67.9 | 70.0 | 71.8 | 73.6  | 75.0  | 77.1  | 78.5  | 81.3  | 85.8  | 88.9  | 89.9 | 85.7 | 164.7 |
| 80    | 64.0 | 68.8 | 70.9 | 72.9 | 74.7  | 76.2  | 76.4  | 79.2  | 80.9  | 85.2  | 88.0  | 90.0 | 85.7 | 164.7 |
| 100   | 66.4 | 69.0 | 72.2 | 73.2 | 74.9  | 76.9  | 77.9  | 80.2  | 82.4  | 85.6  | 87.0  | 88.4 | 84.3 | 163.7 |
| 125   | 69.1 | 71.2 | 73.3 | 74.1 | 75.8  | 77.1  | 78.3  | 80.8  | 83.1  | 84.8  | 85.1  | 85.7 | 82.4 | 162.3 |
| 160   | 69.0 | 74.1 | 74.0 | 76.4 | 77.6  | 79.1  | 80.6  | 81.5  | 83.3  | 85.0  | 84.0  | 83.3 | 80.2 | 161.7 |
| 200   | 67.0 | 71.5 | 73.9 | 75.5 | 77.4  | 78.4  | 79.6  | 81.8  | 83.9  | 83.8  | 82.5  | 80.8 | 77.7 | 160.8 |
| 250   | 67.9 | 70.8 | 73.4 | 75.3 | 76.6  | 78.6  | 79.9  | 81.8  | 83.1  | 82.7  | 80.8  | 79.1 | 74.3 | 160.0 |
| 315   | 67.5 | 72.3 | 74.3 | 75.6 | 77.2  | 79.2  | 80.0  | 82.9  | 84.5  | 84.3  | 79.7  | 77.9 | 72.6 | 160.8 |
| 400   | 67.6 | 71.8 | 73.8 | 75.2 | 77.0  | 79.0  | 81.2  | 82.7  | 83.7  | 83.5  | 80.4  | 77.5 | 71.6 | 161.0 |
| 500   | 65.8 | 70.4 | 73.4 | 75.4 | 76.8  | 79.0  | 80.7  | 83.8  | 84.8  | 83.9  | 80.4  | 78.0 | 71.5 | 161.9 |
| 630   | 67.0 | 72.1 | 74.4 | 76.2 | 77.7  | 79.6  | 81.6  | 83.6  | 85.5  | 85.2  | 82.9  | 79.6 | 72.7 | 163.6 |
| 800   | 67.9 | 73.2 | 75.5 | 76.8 | 78.4  | 79.8  | 81.9  | 84.8  | 85.3  | 85.2  | 83.4  | 80.5 | 71.7 | 164.6 |
| 1000  | 70.1 | 76.3 | 77.4 | 77.6 | 77.8  | 80.1  | 81.8  | 84.1  | 84.8  | 85.1  | 82.8  | 78.7 | 70.8 | 164.9 |
| 1250  | 71.3 | 78.0 | 80.2 | 80.6 | 80.3  | 81.0  | 80.8  | 82.9  | 83.8  | 83.9  | 80.9  | 77.5 | 68.7 | 165.3 |
| 1600  | 69.8 | 75.4 | 80.3 | 81.7 | 80.7  | 80.9  | 80.2  | 81.7  | 81.9  | 80.2  | 77.5  | 73.4 | 64.3 | 164.8 |
| 2000  | 65.3 | 72.8 | 76.7 | 80.4 | 81.0  | 80.7  | 79.5  | 79.7  | 79.9  | 77.6  | 74.7  | 69.5 | 58.6 | 164.7 |
| 2500  | 62.1 | 68.4 | 72.9 | 76.8 | 78.9  | 79.5  | 78.5  | 77.3  | 76.6  | 74.2  | 70.7  | 64.4 | 51.9 | 164.5 |
| 3150  | 55.9 | 64.9 | 69.8 | 73.4 | 74.8  | 76.9  | 76.5  | 74.8  | 73.1  | 70.7  | 65.3  | 58.0 | 39.0 | 165.4 |
| 4000  | 44.1 | 55.6 | 61.0 | 65.9 | 68.0  | 69.2  | 68.3  | 66.8  | 65.2  | 62.3  | 55.2  | 44.1 | 18.1 | 164.1 |
| 5000  | 31.3 | 45.4 | 53.3 | 57.9 | 60.7  | 62.4  | 61.4  | 59.8  | 57.1  | 53.9  | 43.6  | 28.1 |      | 166.2 |
| 6300  | 10.9 | 28.3 | 38.5 | 44.0 | 48.7  | 50.5  | 48.1  | 46.0  | 43.2  | 39.2  | 23.7  | 2.3  |      | 168.6 |
| 8000  |      | 0.9  | 14.5 | 21.6 | 27.5  | 30.3  | 27.4  | 25.1  | 20.7  | 14.3  |       |      |      | 172.4 |
| 10000 |      |      |      |      |       | 0.7   |       |       |       |       |       |      |      | 177.1 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |      |      |       |
| CASPL | 80.2 | 85.3 | 87.9 | 89.6 | 90.4  | 91.7  | 92.9  | 94.5  | 95.8  | 96.7  | 96.7  | 96.9 | 92.6 | 181.0 |
| PNL   | 88.0 | 93.9 | 97.7 | 99.9 | 100.9 | 101.9 | 102.0 | 102.5 | 103.0 | 102.5 | 100.2 | 98.0 | 92.2 |       |
| PNLT  | 88.0 | 94.5 | 98.2 | 99.9 | 101.4 | 102.4 | 102.0 | 102.5 | 103.0 | 103.0 | 100.2 | 99.1 | 92.2 |       |
| DBA   | 77.8 | 83.9 | 86.9 | 88.6 | 89.1  | 90.0  | 90.3  | 92.0  | 92.7  | 92.3  | 89.7  | 86.6 | 79.5 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH221 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1648.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2310.6 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0411 TAPE = X04111 TEST PT NO = 0411 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0412 X0412C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.5 | 85.3  | 79.6  | 79.6  | 82.2  | 79.1  | 79.5  | 83.4  | 83.6  | 83.4  | 89.3  | 90.0  | 97.9  | 128.7 |
| 63    | 89.4 | 91.0  | 84.0  | 85.3  | 90.4  | 85.0  | 85.9  | 89.3  | 87.7  | 85.3  | 88.7  | 88.4  | 96.8  | 130.9 |
| 80    | 85.7 | 91.0  | 87.2  | 88.5  | 87.9  | 89.5  | 90.6  | 89.8  | 90.2  | 89.8  | 91.2  | 93.6  | 98.8  | 132.8 |
| 100   | 85.0 | 91.0  | 86.5  | 87.8  | 89.2  | 89.3  | 90.4  | 91.6  | 89.8  | 91.1  | 93.7  | 97.2  | 101.3 | 134.2 |
| 125   | 82.7 | 85.9  | 87.7  | 88.5  | 89.8  | 83.7  | 91.1  | 91.0  | 90.2  | 92.5  | 97.9  | 101.8 | 104.3 | 136.5 |
| 160   | 83.2 | 79.7  | 84.7  | 83.8  | 85.1  | 84.7  | 90.9  | 86.8  | 88.5  | 93.0  | 98.2  | 101.9 | 105.5 | 136.6 |
| 200   | 84.8 | 82.6  | 82.1  | 82.9  | 84.8  | 86.1  | 89.3  | 89.4  | 91.9  | 92.9  | 98.1  | 103.0 | 106.4 | 137.4 |
| 250   | 79.8 | 82.8  | 82.6  | 84.1  | 84.5  | 86.3  | 89.2  | 90.9  | 92.3  | 97.6  | 103.5 | 106.7 | 107.1 | 140.1 |
| 315   | 82.6 | 83.4  | 83.2  | 85.2  | 85.8  | 87.2  | 92.1  | 91.2  | 93.4  | 99.5  | 104.6 | 107.8 | 107.7 | 141.1 |
| 400   | 80.0 | 83.3  | 83.8  | 83.8  | 85.7  | 86.5  | 98.2  | 91.1  | 94.3  | 100.8 | 105.2 | 107.7 | 105.8 | 141.2 |
| 500   | 80.7 | 82.8  | 84.1  | 84.8  | 85.7  | 87.5  | 90.2  | 91.6  | 95.1  | 101.4 | 105.3 | 106.7 | 103.1 | 140.4 |
| 630   | 80.4 | 82.7  | 85.0  | 85.8  | 86.4  | 88.2  | 89.9  | 92.3  | 95.2  | 102.3 | 104.2 | 105.1 | 99.8  | 139.5 |
| 800   | 81.4 | 83.5  | 85.5  | 86.3  | 86.9  | 88.5  | 91.1  | 94.0  | 96.5  | 101.8 | 103.2 | 101.1 | 95.3  | 138.3 |
| 1000  | 83.4 | 84.0  | 86.0  | 86.3  | 88.1  | 89.7  | 91.6  | 94.3  | 97.2  | 101.6 | 102.2 | 98.4  | 91.8  | 137.6 |
| 1250  | 86.3 | 90.3  | 89.8  | 90.5  | 90.5  | 92.1  | 94.2  | 95.4  | 98.3  | 101.7 | 100.8 | 95.0  | 90.0  | 137.8 |
| 1600  | 85.0 | 86.9  | 88.4  | 89.0  | 90.7  | 91.8  | 93.9  | 96.0  | 99.6  | 100.7 | 100.8 | 92.5  | 88.2  | 137.6 |
| 2000  | 86.3 | 86.2  | 88.3  | 89.5  | 90.1  | 91.7  | 94.7  | 96.5  | 99.3  | 100.9 | 99.4  | 91.0  | 87.0  | 137.4 |
| 2500  | 86.3 | 87.8  | 89.1  | 89.8  | 91.7  | 93.3  | 95.0  | 98.1  | 101.2 | 102.0 | 98.8  | 91.1  | 86.4  | 138.6 |
| 3150  | 87.1 | 88.2  | 89.7  | 90.5  | 91.8  | 94.4  | 96.8  | 98.7  | 100.5 | 101.9 | 99.4  | 90.8  | 86.1  | 138.8 |
| 4000  | 86.8 | 88.2  | 90.3  | 91.3  | 92.9  | 94.4  | 96.5  | 100.1 | 101.7 | 102.2 | 98.9  | 90.2  | 86.0  | 139.5 |
| 5000  | 89.1 | 90.3  | 91.9  | 92.6  | 93.6  | 95.6  | 98.2  | 100.5 | 103.2 | 103.4 | 101.2 | 92.5  | 87.5  | 140.9 |
| 6300  | 90.7 | 92.3  | 92.8  | 93.7  | 95.5  | 96.7  | 99.5  | 102.2 | 104.4 | 105.3 | 102.6 | 95.2  | 89.4  | 142.7 |
| 8000  | 94.8 | 96.9  | 95.7  | 95.2  | 95.6  | 97.9  | 99.4  | 102.7 | 104.9 | 106.2 | 104.0 | 97.2  | 91.9  | 144.0 |
| 10000 | 98.5 | 101.2 | 100.5 | 99.6  | 98.0  | 98.8  | 100.3 | 102.2 | 104.8 | 107.4 | 105.4 | 99.4  | 94.2  | 145.8 |
| 12500 | 96.6 | 100.0 | 102.0 | 101.8 | 99.9  | 99.9  | 99.9  | 101.6 | 103.9 | 104.8 | 104.3 | 99.4  | 93.9  | 146.1 |
| 16000 | 92.8 | 96.7  | 96.6  | 101.0 | 101.1 | 99.8  | 100.1 | 100.5 | 102.3 | 102.8 | 102.8 | 97.7  | 92.4  | 146.2 |
| 20000 | 91.7 | 94.1  | 95.7  | 98.0  | 98.8  | 100.1 | 99.7  | 99.3  | 100.6 | 99.8  | 100.3 | 95.6  | 90.7  | 146.2 |
| 25000 | 88.8 | 92.2  | 94.0  | 95.7  | 96.8  | 98.4  | 99.1  | 98.1  | 99.2  | 98.6  | 96.8  | 93.1  | 87.2  | 146.9 |
| 31500 | 82.3 | 87.2  | 88.4  | 90.9  | 92.0  | 93.4  | 93.3  | 93.4  | 94.9  | 93.9  | 91.9  | 88.0  | 81.2  | 145.1 |
| 40000 | 79.0 | 84.2  | 86.0  | 87.9  | 89.2  | 90.8  | 90.9  | 91.2  | 92.0  | 90.4  | 88.5  | 84.6  | 77.3  | 146.3 |
| 50000 | 75.3 | 80.5  | 82.1  | 83.9  | 86.2  | 87.7  | 87.6  | 87.6  | 88.8  | 88.9  | 84.9  | 80.6  | 73.5  | 147.5 |
| 63000 | 70.7 | 77.3  | 79.8  | 79.8  | 82.5  | 84.6  | 83.6  | 84.8  | 86.7  | 87.1  | 82.8  | 75.8  | 67.8  | 150.0 |
| 80000 | 64.6 | 72.9  | 75.9  | 75.6  | 77.9  | 80.0  | 79.1  | 80.7  | 83.1  | 84.3  | 79.5  | 69.8  | 59.3  | 153.0 |

CASPL 104.4 107.0 107.7 108.3 108.4 100.2 110.7 112.1 114.3 116.1 116.2 115.7 115.3 159.2  
PNL 114.0 116.1 116.1 116.2 117.5 118.9 121.5 123.6 126.0 127.7 126.8 123.4 121.6  
PNLT 114.6 117.7 116.1 116.2 117.5 118.9 122.7 123.6 126.0 127.7 126.8 123.4 121.6  
DBA 100.9 103.0 103.2 103.3 104.0 105.6 107.9 110.3 112.8 114.5 113.7 111.1 108.3

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                    |                  |                   |
|----------------------|----------------------|------------------------|--------------------|------------------|-------------------|
| VEHICLE = ADH228     | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH   | CONFIG = 4         | MODEL = AX       | FLTVEL = 400. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 79.00     | PAMB HG = 29.50  | RELHUM = 71.6 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH                    | EXT DIST = 40.0 FT | EXT CONFIG = ARC | MIKE HT =         |
| FNINT =              | LBS XNL =            | RPM                    | XNH =              | RPM              | V8 = 1645.1 FPS   |
| FNRAMB =             | LBS XNLR =           | RPM                    | XNHR =             | RPM              | V13 = 2299.5 FPS  |
|                      |                      |                        |                    |                  | AE8 = 4.0 SQ IN   |
|                      |                      |                        |                    |                  | AE18 = 20.4 SQ IN |
| RUNPT = 82F-400-0412 | TAPE = X0412C        | TEST PT NO = 0412      | NC = AE058         | CORR FAN SPEED = | RPM               |

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80-8811

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0412 X0412F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.1  | 88.9  | 87.3  | 87.3  | 86.0  | 86.3  | 87.3  | 87.3  | 90.0  | 95.1  | 99.7  | 103.4 | 105.1 | 137.4 |
| 315   | 87.1  | 88.9  | 87.3  | 87.3  | 87.5  | 87.4  | 90.7  | 88.4  | 91.0  | 96.8  | 100.8 | 104.0 | 104.7 | 137.9 |
| 400   | 89.3  | 89.1  | 87.7  | 88.3  | 87.5  | 86.8  | 96.9  | 88.3  | 92.1  | 97.6  | 101.3 | 103.9 | 103.6 | 138.3 |
| 500   | 87.5  | 89.6  | 88.7  | 87.2  | 87.6  | 87.9  | 88.9  | 88.9  | 93.2  | 99.6  | 101.3 | 104.0 | 103.0 | 138.2 |
| 630   | 88.4  | 89.2  | 89.0  | 88.3  | 88.3  | 88.6  | 89.2  | 90.3  | 95.6  | 100.6 | 102.2 | 102.7 | 102.6 | 138.4 |
| 800   | 88.1  | 89.1  | 90.0  | 89.3  | 88.9  | 89.0  | 90.6  | 92.5  | 97.0  | 101.2 | 102.5 | 102.0 | 102.6 | 138.7 |
| 1000  | 89.1  | 89.9  | 90.6  | 89.9  | 90.3  | 90.4  | 91.2  | 93.0  | 97.6  | 100.8 | 100.7 | 98.3  | 100.7 | 137.8 |
| 1250  | 91.1  | 90.4  | 91.1  | 89.9  | 92.6  | 92.9  | 93.7  | 93.7  | 98.8  | 99.6  | 100.4 | 95.5  | 98.8  | 137.7 |
| 1600  | 92.9  | 96.1  | 94.5  | 93.9  | 93.2  | 92.9  | 93.5  | 94.3  | 98.7  | 100.0 | 99.1  | 94.1  | 97.7  | 138.1 |
| 2000  | 92.7  | 93.5  | 93.6  | 92.9  | 92.7  | 93.0  | 94.7  | 95.1  | 100.8 | 101.2 | 98.4  | 93.8  | 96.1  | 138.5 |
| 2500  | 93.9  | 92.7  | 93.7  | 93.5  | 94.6  | 94.9  | 95.3  | 97.0  | 100.7 | 101.6 | 99.6  | 94.1  | 96.4  | 139.2 |
| 3150  | 93.9  | 94.4  | 94.5  | 94.0  | 95.1  | 96.4  | 97.6  | 98.1  | 102.6 | 102.6 | 99.6  | 93.9  | 96.6  | 140.4 |
| 4000  | 94.7  | 94.8  | 95.3  | 94.9  | 96.6  | 97.0  | 98.0  | 100.2 | 104.2 | 103.7 | 101.9 | 96.2  | 98.1  | 141.8 |
| 5000  | 94.3  | 94.9  | 96.1  | 95.9  | 97.6  | 98.6  | 99.9  | 100.7 | 105.4 | 105.7 | 103.4 | 98.9  | 100.1 | 143.4 |
| 6300  | 96.5  | 97.0  | 97.7  | 97.4  | 99.6  | 99.7  | 101.2 | 102.4 | 106.3 | 107.1 | 105.4 | 102.0 | 104.2 | 145.2 |
| 8000  | 98.0  | 98.8  | 98.5  | 98.4  | 99.5  | 100.9 | 101.2 | 103.1 | 106.5 | 108.7 | 107.4 | 104.8 | 107.1 | 146.8 |
| 10000 | 100.7 | 102.4 | 100.6 | 99.4  | 101.5 | 101.8 | 102.0 | 102.6 | 106.6 | 107.3 | 107.5 | 106.0 | 107.8 | 147.7 |
| 12500 | 102.9 | 105.2 | 104.1 | 102.7 | 103.8 | 102.9 | 102.1 | 102.6 | 106.0 | 106.3 | 107.0 | 105.1 | 107.1 | 149.0 |
| 16000 | 102.2 | 105.0 | 106.4 | 105.3 | 105.1 | 102.8 | 102.5 | 101.9 | 105.3 | 104.4 | 105.3 | 103.6 | 105.7 | 150.3 |
| 20000 | 98.8  | 101.9 | 102.9 | 104.3 | 102.9 | 103.1 | 102.1 | 101.1 | 104.6 | 103.9 | 102.9 | 102.6 | 103.8 | 150.5 |
| 25000 | 97.0  | 98.6  | 99.4  | 100.7 | 101.4 | 101.4 | 101.5 | 99.9  | 100.6 | 99.4  | 98.2  | 97.8  | 98.6  | 150.0 |
| 31500 | 96.2  | 98.3  | 98.6  | 98.7  | 96.6  | 96.4  | 95.7  | 94.9  | 98.5  | 96.9  | 95.7  | 95.5  | 95.9  | 150.2 |
| 40000 | 88.8  | 92.4  | 92.2  | 93.2  | 93.8  | 93.8  | 93.2  | 92.8  | 94.9  | 94.6  | 91.2  | 90.3  | 91.1  | 150.1 |
| 50000 | 85.1  | 89.1  | 89.4  | 89.7  | 90.8  | 90.7  | 89.7  | 88.6  | 93.2  | 93.0  | 89.0  | 85.0  | 83.9  | 151.6 |
| 63000 | 80.5  | 84.4  | 84.6  | 84.8  | 87.1  | 87.6  | 85.4  | 85.4  | 91.0  | 91.6  | 87.1  | 80.3  | 76.8  | 153.8 |
| 80000 | 74.4  | 79.7  | 80.7  | 79.2  | 82.5  | 83.0  | 81.0  | 81.1  | 81.2  | 81.8  | 77.3  | 70.5  | 67.0  | 154.2 |
| DASPL | 109.8 | 111.8 | 111.9 | 111.6 | 112.0 | 111.7 | 112.0 | 112.3 | 116.0 | 116.8 | 116.4 | 115.2 | 116.6 | 161.8 |
| PNL   | 118.0 | 118.6 | 118.8 | 118.4 | 119.8 | 120.2 | 121.5 | 122.4 | 126.6 | 127.8 | 126.7 | 124.0 | 125.8 |       |
| PNLT  | 118.0 | 120.0 | 118.8 | 118.4 | 119.8 | 120.2 | 122.7 | 122.4 | 126.6 | 127.8 | 126.7 | 124.0 | 125.8 |       |
| DBA   | 196.3 | 201.2 | 202.0 | 201.0 | 203.9 | 204.4 | 202.4 | 202.4 | 204.5 | 205.0 | 200.6 | 194.3 | 191.5 |       |

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MODEL/FULL SCALE FAC - 11=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                  |                 |                   |
|-----------------|----------------------|------------------------|------------------|-----------------|-------------------|
| VEHICL = ADH228 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH   | CONFIG = 4       | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 79.00   | PAMB HG = 29.50 | RELHUM = 71.6 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FNIN1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1645.1 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 2299.5 FPS | AE18 = 20.4 SQ IN |

RUNPT = 82F-400-0412 TAPE = X0412F TEST PT NO = 0412 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0412 X04121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| 50    | 67.5 | 68.8 | 68.4  | 69.8  | 69.4  | 68.8  | 78.7  | 69.8  | 72.9  | 77.3  | 79.4 | 79.9 | 76.3 | 155.9 |
| 63    | 65.6 | 69.2 | 69.4  | 68.7  | 69.4  | 69.9  | 70.8  | 70.4  | 74.0  | 79.2  | 79.5 | 79.9 | 75.5 | 155.8 |
| 80    | 66.5 | 68.8 | 69.7  | 69.7  | 70.2  | 70.6  | 71.0  | 71.7  | 76.3  | 80.2  | 80.3 | 78.5 | 75.1 | 156.0 |
| 100   | 66.1 | 68.7 | 70.6  | 70.6  | 70.7  | 70.9  | 72.4  | 73.9  | 77.6  | 80.8  | 80.5 | 77.7 | 74.9 | 156.3 |
| 125   | 67.0 | 69.4 | 71.1  | 71.2  | 72.0  | 72.2  | 73.0  | 74.3  | 78.2  | 80.3  | 78.6 | 73.9 | 72.8 | 155.3 |
| 160   | 68.8 | 69.7 | 71.5  | 71.1  | 74.2  | 74.6  | 75.3  | 74.9  | 79.2  | 78.9  | 78.1 | 70.9 | 70.5 | 155.0 |
| 200   | 70.3 | 75.2 | 74.8  | 74.9  | 74.6  | 74.5  | 75.0  | 75.3  | 79.0  | 79.1  | 76.5 | 69.1 | 68.9 | 155.7 |
| 250   | 69.8 | 72.3 | 73.6  | 73.6  | 74.0  | 74.3  | 75.9  | 75.9  | 80.8  | 80.0  | 75.5 | 68.4 | 66.7 | 156.1 |
| 315   | 70.6 | 71.2 | 73.4  | 74.0  | 75.6  | 76.0  | 76.3  | 77.5  | 80.4  | 80.1  | 76.2 | 68.1 | 66.2 | 156.8 |
| 400   | 70.1 | 72.5 | 73.9  | 74.2  | 75.7  | 77.2  | 78.2  | 78.3  | 82.0  | 80.6  | 75.8 | 67.3 | 65.4 | 157.9 |
| 500   | 70.4 | 72.5 | 74.3  | 74.8  | 77.0  | 77.5  | 78.4  | 80.1  | 83.2  | 81.4  | 77.6 | 68.9 | 65.9 | 159.4 |
| 630   | 69.6 | 72.2 | 74.8  | 75.5  | 77.8  | 78.8  | 80.0  | 80.3  | 84.1  | 83.0  | 78.6 | 71.0 | 66.8 | 161.0 |
| 800   | 71.2 | 73.9 | 76.1  | 76.7  | 79.4  | 79.8  | 81.1  | 81.7  | 84.6  | 84.1  | 80.2 | 73.4 | 69.8 | 162.8 |
| 1000  | 72.3 | 75.4 | 76.7  | 77.5  | 79.2  | 80.8  | 80.9  | 82.2  | 84.6  | 85.4  | 81.7 | 75.5 | 71.5 | 164.4 |
| 1250  | 74.5 | 78.7 | 78.6  | 78.4  | 81.1  | 81.5  | 81.6  | 81.6  | 84.6  | 83.6  | 81.3 | 75.9 | 70.8 | 165.3 |
| 1600  | 75.8 | 80.9 | 81.6  | 81.4  | 83.1  | 82.4  | 81.4  | 81.3  | 83.5  | 82.0  | 79.9 | 73.7 | 67.8 | 166.6 |
| 2000  | 74.1 | 80.1 | 83.5  | 83.7  | 84.3  | 82.2  | 81.6  | 80.3  | 82.4  | 79.5  | 77.2 | 70.5 | 63.3 | 167.9 |
| 2500  | 68.9 | 75.7 | 79.2  | 82.1  | 81.5  | 82.0  | 80.7  | 78.9  | 80.8  | 77.8  | 73.0 | 66.7 | 56.5 | 168.1 |
| 3150  | 63.8 | 70.1 | 73.7  | 76.9  | 78.6  | 79.0  | 78.7  | 76.1  | 75.0  | 70.8  | 65.0 | 56.9 | 43.0 | 167.6 |
| 4000  | 56.7 | 65.0 | 69.2  | 71.7  | 70.8  | 71.0  | 70.0  | 67.9  | 69.1  | 63.6  | 56.3 | 45.7 | 25.7 | 167.8 |
| 5000  | 39.6 | 51.5 | 56.6  | 60.7  | 63.0  | 63.6  | 62.5  | 60.3  | 59.2  | 53.8  | 42.0 | 26.8 |      | 167.7 |
| 6300  | 18.1 | 34.0 | 41.6  | 46.4  | 49.9  | 50.6  | 48.9  | 45.3  | 45.4  | 37.9  | 22.0 |      |      | 169.2 |
| 8000  |      | 4.5  | 15.5  | 22.3  | 28.1  | 29.8  | 26.4  | 22.8  | 21.9  | 11.7  |      |      |      | 171.4 |
| 10000 |      |      |       |       |       |       |       |       |       |       |      |      |      | 171.8 |
| 12500 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| OASPL | 83.5 | 87.6 | 89.4  | 90.0  | 91.2  | 91.2  | 91.5  | 91.3  | 94.2  | 93.9  | 91.4 | 87.4 | 83.9 | 179.4 |
| PNL   | 93.2 | 98.4 | 101.1 | 101.9 | 102.7 | 102.7 | 102.3 | 101.2 | 103.6 | 101.8 | 98.9 | 92.6 | 87.5 |       |
| PNLT  | 94.3 | 99.1 | 102.1 | 102.5 | 102.7 | 102.7 | 102.3 | 101.2 | 104.1 | 102.4 | 98.9 | 92.6 | 87.5 |       |
| DBA   | 82.5 | 87.3 | 89.3  | 90.1  | 91.2  | 91.0  | 90.7  | 90.4  | 92.9  | 91.8  | 88.6 | 82.3 | 77.6 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/MAS3-23166

|          |          |           |            |          |                |        |         |          |             |              |            |              |
|----------|----------|-----------|------------|----------|----------------|--------|---------|----------|-------------|--------------|------------|--------------|
| VEHICLE  | = ADH228 | TEST DATE | = 08-17-82 | LOCAT    | = C41 ANECH CH | CONFIG | = 4     | MODEL    | = AX        | FLTVEL       | = 400. FPS |              |
| IAPLHA   | = SB59   | IEGA      | = NO       | PWL AREA | = FULL SPHERE  | TAMB F | = 79.00 | PAMB HG  | = 29.50     | RELHUM       | = 71.6 PCT |              |
| WIND DIR | =        | DEG       |            | WIND VEL | =              | MPH    |         | EXT DIST | = 2400.0 FT | EXT CONFIG   | = SL       |              |
| MIKE HT  | =        |           |            |          |                |        |         |          |             |              |            |              |
| FNINI    | =        | LBS       | XNL        | =        | RPM            | XNH    | =       | RPM      | V8          | = 1645.1 FPS | AE8        | = 4.0 SQ IN  |
| FNRAMB   | =        | LBS       | XNLR       | =        | RPM            | XNHR   | =       | RPM      | V18         | = 2299.5 FPS | AE18       | = 20.4 SQ IN |

RUNPT = 82F-400-0412 TAPE = X04121 TEST PT NO = 0412 NC = AE058 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-2ER-0413 X0413C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0 | 83.3  | 80.1  | 81.9  | 82.5  | 80.3  | 81.7  | 81.9  | 86.1  | 87.4  | 89.3  | 90.0  | 92.4  | 127.5 |
| 63    | 91.2 | 90.7  | 88.7  | 87.5  | 90.6  | 87.7  | 89.1  | 85.0  | 91.0  | 92.8  | 92.2  | 91.9  | 94.5  | 132.2 |
| 80    | 87.7 | 91.7  | 88.7  | 89.5  | 89.1  | 91.2  | 91.6  | 91.3  | 92.2  | 92.6  | 93.4  | 96.9  | 99.0  | 134.3 |
| 100   | 88.2 | 94.0  | 89.8  | 91.8  | 92.9  | 92.3  | 92.7  | 94.8  | 93.0  | 95.8  | 98.2  | 101.2 | 103.8 | 137.6 |
| 125   | 84.7 | 87.9  | 90.7  | 92.0  | 93.1  | 94.0  | 93.6  | 94.5  | 94.5  | 97.3  | 102.2 | 105.8 | 107.3 | 140.2 |
| 160   | 85.7 | 83.7  | 88.2  | 87.8  | 89.1  | 89.5  | 95.9  | 91.8  | 92.5  | 97.3  | 103.2 | 106.4 | 109.3 | 140.9 |
| 200   | 86.1 | 85.4  | 86.6  | 88.4  | 89.8  | 91.6  | 94.0  | 94.4  | 97.4  | 99.2  | 103.8 | 108.3 | 110.9 | 142.4 |
| 250   | 85.3 | 89.1  | 89.3  | 89.6  | 89.7  | 91.1  | 94.0  | 96.6  | 97.6  | 103.6 | 109.0 | 112.2 | 112.6 | 145.6 |
| 315   | 86.1 | 88.9  | 88.2  | 89.7  | 92.3  | 93.9  | 96.8  | 96.7  | 100.2 | 105.5 | 109.4 | 113.6 | 114.0 | 146.8 |
| 400   | 85.7 | 88.8  | 90.0  | 90.1  | 92.2  | 93.0  | 102.4 | 97.1  | 100.8 | 107.3 | 111.0 | 114.7 | 113.6 | 147.8 |
| 500   | 87.0 | 89.0  | 90.3  | 91.8  | 92.4  | 93.8  | 96.2  | 98.3  | 101.8 | 108.1 | 112.3 | 114.7 | 114.1 | 148.2 |
| 630   | 87.4 | 90.0  | 91.7  | 92.5  | 93.4  | 95.0  | 96.1  | 99.0  | 102.0 | 108.8 | 111.4 | 114.9 | 114.8 | 148.4 |
| 800   | 89.4 | 90.7  | 92.8  | 93.3  | 93.9  | 95.5  | 97.4  | 100.8 | 102.8 | 108.3 | 111.0 | 113.6 | 113.5 | 147.6 |
| 1000  | 92.4 | 92.2  | 94.3  | 93.8  | 95.1  | 96.0  | 97.9  | 100.5 | 103.0 | 107.3 | 109.0 | 112.4 | 112.5 | 146.6 |
| 1250  | 92.3 | 95.3  | 94.8  | 96.0  | 96.5  | 98.1  | 99.2  | 100.9 | 104.1 | 107.4 | 108.0 | 110.2 | 110.5 | 145.7 |
| 1600  | 90.5 | 93.2  | 94.9  | 95.2  | 96.7  | 97.9  | 99.7  | 102.0 | 104.9 | 106.7 | 107.1 | 108.5 | 109.2 | 145.1 |
| 2000  | 92.3 | 93.4  | 95.1  | 95.5  | 96.6  | 97.4  | 99.4  | 102.2 | 104.6 | 105.9 | 106.1 | 107.7 | 106.5 | 144.3 |
| 2500  | 91.8 | 94.5  | 95.8  | 96.1  | 97.7  | 98.6  | 100.3 | 103.6 | 105.7 | 107.3 | 105.8 | 106.9 | 106.1 | 144.9 |
| 3150  | 92.6 | 94.4  | 95.5  | 96.2  | 97.3  | 99.4  | 101.5 | 103.5 | 105.1 | 106.9 | 106.2 | 106.6 | 105.3 | 144.8 |
| 4000  | 91.6 | 93.7  | 95.8  | 96.5  | 98.2  | 99.4  | 101.1 | 104.4 | 106.2 | 107.4 | 106.4 | 106.7 | 105.3 | 145.4 |
| 5000  | 93.3 | 96.3  | 97.4  | 97.1  | 98.1  | 99.6  | 102.2 | 105.3 | 107.8 | 108.1 | 109.2 | 108.3 | 106.5 | 146.9 |
| 6300  | 95.5 | 98.3  | 98.6  | 98.7  | 99.5  | 100.5 | 102.8 | 105.7 | 107.4 | 108.8 | 109.4 | 108.4 | 106.4 | 147.5 |
| 8000  | 99.3 | 102.4 | 101.7 | 100.2 | 99.9  | 100.7 | 102.4 | 105.4 | 107.9 | 109.2 | 108.7 | 107.5 | 105.6 | 148.0 |
| 10000 | 99.8 | 104.2 | 105.2 | 104.1 | 102.8 | 102.3 | 102.8 | 104.7 | 106.8 | 108.7 | 107.4 | 107.1 | 105.2 | 148.8 |
| 12500 | 97.1 | 100.2 | 104.0 | 105.3 | 103.6 | 103.4 | 101.9 | 103.3 | 105.1 | 105.5 | 105.5 | 104.6 | 103.4 | 148.3 |
| 16000 | 94.3 | 97.9  | 100.4 | 103.0 | 103.3 | 103.3 | 101.9 | 102.7 | 103.0 | 103.8 | 103.5 | 102.6 | 99.9  | 148.1 |
| 20000 | 93.7 | 96.0  | 98.4  | 100.0 | 100.8 | 101.9 | 101.2 | 100.5 | 100.8 | 101.1 | 101.3 | 100.6 | 98.5  | 147.8 |
| 25000 | 90.6 | 93.7  | 96.2  | 98.6  | 99.1  | 100.2 | 100.1 | 99.5  | 100.0 | 100.3 | 99.5  | 98.6  | 93.7  | 148.7 |
| 31500 | 84.8 | 89.4  | 91.2  | 94.2  | 94.7  | 96.1  | 95.1  | 94.9  | 96.2  | 96.4  | 94.9  | 93.5  | 88.0  | 147.4 |
| 40000 | 82.3 | 87.0  | 90.2  | 91.4  | 92.7  | 93.1  | 92.9  | 92.8  | 94.0  | 95.2  | 93.3  | 90.9  | 85.8  | 149.3 |
| 50000 | 79.7 | 84.4  | 87.8  | 88.8  | 90.8  | 91.5  | 90.0  | 90.8  | 92.7  | 95.0  | 92.5  | 89.4  | 82.9  | 152.1 |
| 63000 | 76.5 | 82.8  | 86.3  | 85.9  | 88.2  | 88.9  | 87.1  | 88.6  | 91.8  | 94.7  | 93.8  | 88.1  | 78.6  | 156.2 |
| 80000 | 71.4 | 80.8  | 85.1  | 82.5  | 84.8  | 86.4  | 84.5  | 84.6  | 90.6  | 94.0  | 92.2  | 84.6  | 72.6  | 161.3 |

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GASPL 107.3 110.4 111.7 112.2 112.3 112.9 114.1 115.9 117.9 120.4 121.9 124.1 123.9 165.0

PNL 118.3 121.0 121.5 121.5 122.6 123.7 125.8 128.1 130.4 132.4 133.4 134.2 133.4

PNLT 118.3 121.7 121.5 121.5 122.6 124.2 126.8 128.1 130.4 132.4 133.4 134.2 133.4

DBA 105.2 108.1 108.8 108.6 109.2 110.3 112.2 114.8 117.1 119.3 120.2 122.0 121.6

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH222     | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLVEL = 0. FPS    |
| APLHA = SB59         | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 83.00       | PAMB HG = 29.45   | RELHUM = 65.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1656.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2383.6 FPS | AE18 = 20.4 SQ IN |                   |
| RUNPT = 82F-2ER-0413 | TAPE = X0413C        | TEST PT NO = 0413      | NC = AE058           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0413 X0413F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0 | 83.3  | 80.1  | 81.9  | 82.5  | 80.3  | 81.7  | 81.9  | 86.1  | 87.4  | 89.3  | 90.0  | 92.4  | 127.5 |
| 63    | 91.2 | 90.7  | 83.7  | 87.5  | 90.6  | 87.7  | 89.1  | 85.0  | 91.0  | 92.8  | 92.2  | 91.9  | 94.5  | 132.2 |
| 80    | 87.7 | 91.7  | 88.7  | 89.5  | 89.1  | 91.2  | 91.6  | 91.3  | 92.2  | 92.6  | 93.4  | 95.9  | 99.0  | 134.3 |
| 100   | 88.2 | 94.0  | 89.8  | 91.8  | 92.9  | 92.3  | 92.7  | 94.8  | 93.0  | 95.8  | 98.2  | 101.2 | 103.8 | 137.6 |
| 125   | 84.7 | 87.9  | 90.7  | 92.0  | 93.1  | 94.0  | 93.6  | 94.5  | 94.5  | 97.3  | 102.2 | 105.8 | 107.3 | 140.2 |
| 160   | 85.7 | 83.7  | 88.2  | 87.8  | 89.1  | 89.5  | 95.9  | 91.8  | 92.5  | 97.3  | 103.2 | 106.4 | 109.3 | 140.9 |
| 200   | 86.1 | 85.4  | 86.6  | 88.4  | 89.8  | 91.6  | 94.0  | 94.4  | 97.4  | 99.2  | 103.8 | 105.3 | 110.9 | 142.4 |
| 250   | 85.3 | 89.1  | 89.3  | 89.6  | 89.7  | 91.1  | 94.0  | 96.6  | 97.6  | 103.6 | 109.0 | 112.2 | 112.6 | 145.6 |
| 315   | 86.1 | 88.9  | 88.2  | 89.7  | 92.3  | 93.9  | 96.8  | 96.7  | 100.2 | 105.5 | 109.4 | 113.6 | 114.0 | 146.8 |
| 400   | 85.7 | 88.8  | 90.0  | 90.1  | 92.2  | 93.0  | 102.4 | 97.1  | 100.8 | 107.3 | 111.0 | 114.7 | 113.6 | 147.8 |
| 500   | 87.0 | 89.0  | 90.3  | 91.8  | 92.4  | 93.8  | 96.2  | 98.3  | 101.8 | 108.1 | 112.3 | 114.7 | 114.1 | 148.2 |
| 630   | 87.4 | 90.0  | 91.7  | 92.5  | 93.4  | 95.0  | 96.1  | 99.0  | 102.0 | 108.8 | 111.4 | 114.9 | 114.8 | 148.4 |
| 800   | 89.4 | 90.7  | 92.8  | 93.3  | 93.9  | 95.5  | 97.4  | 100.8 | 102.8 | 108.3 | 111.0 | 113.6 | 113.5 | 147.6 |
| 1000  | 92.4 | 92.2  | 94.3  | 93.8  | 95.1  | 96.0  | 97.9  | 100.5 | 103.0 | 107.3 | 109.0 | 112.4 | 112.5 | 146.6 |
| 1250  | 92.3 | 95.3  | 94.8  | 96.0  | 96.5  | 98.1  | 99.2  | 100.9 | 104.1 | 107.4 | 108.0 | 110.2 | 110.5 | 145.7 |
| 1600  | 90.5 | 93.2  | 94.9  | 95.2  | 96.7  | 97.9  | 99.7  | 102.0 | 104.9 | 106.7 | 107.1 | 108.5 | 109.2 | 145.1 |
| 2000  | 92.3 | 93.4  | 95.1  | 95.5  | 96.6  | 97.4  | 99.4  | 102.2 | 104.6 | 105.9 | 106.1 | 107.7 | 106.5 | 144.3 |
| 2500  | 91.6 | 94.5  | 95.8  | 96.1  | 97.7  | 98.6  | 100.3 | 103.6 | 105.7 | 107.3 | 105.8 | 106.9 | 106.1 | 144.9 |
| 3150  | 92.6 | 94.4  | 95.5  | 96.2  | 97.3  | 99.4  | 101.5 | 103.5 | 105.1 | 106.9 | 106.2 | 106.6 | 105.3 | 144.8 |
| 4000  | 91.6 | 93.7  | 95.8  | 96.5  | 98.2  | 99.4  | 101.1 | 104.4 | 106.2 | 107.4 | 106.4 | 106.7 | 105.3 | 145.4 |
| 5000  | 93.3 | 96.3  | 97.4  | 97.1  | 98.1  | 99.6  | 102.2 | 105.3 | 107.8 | 108.1 | 109.2 | 108.3 | 106.5 | 146.9 |
| 6300  | 95.5 | 98.3  | 98.6  | 98.7  | 99.5  | 100.5 | 102.8 | 105.7 | 107.4 | 108.8 | 109.4 | 108.4 | 106.4 | 147.5 |
| 8000  | 99.3 | 102.4 | 101.7 | 100.2 | 99.9  | 100.7 | 102.4 | 105.4 | 107.9 | 109.2 | 108.7 | 107.5 | 105.6 | 148.0 |
| 10000 | 99.8 | 104.2 | 105.2 | 104.1 | 102.8 | 102.3 | 102.8 | 104.7 | 106.8 | 108.7 | 107.4 | 107.1 | 105.2 | 148.8 |
| 12500 | 97.1 | 100.2 | 104.0 | 105.3 | 103.6 | 103.4 | 101.9 | 103.3 | 105.1 | 105.5 | 105.5 | 104.6 | 103.4 | 148.3 |
| 16000 | 94.3 | 97.9  | 100.4 | 103.0 | 103.3 | 103.3 | 101.9 | 102.7 | 103.0 | 103.8 | 103.5 | 102.6 | 99.9  | 148.1 |
| 20000 | 93.7 | 96.0  | 98.4  | 100.0 | 100.8 | 101.9 | 101.2 | 100.5 | 100.8 | 101.1 | 101.3 | 100.6 | 98.5  | 147.8 |
| 25000 | 90.6 | 93.7  | 96.2  | 98.6  | 99.1  | 100.2 | 100.1 | 99.5  | 100.0 | 100.3 | 99.5  | 98.6  | 93.7  | 148.7 |
| 31500 | 84.8 | 89.4  | 91.2  | 94.2  | 94.7  | 96.1  | 95.1  | 94.9  | 96.2  | 96.4  | 94.9  | 93.5  | 88.0  | 147.4 |
| 40000 | 82.3 | 87.0  | 90.2  | 91.4  | 92.7  | 93.1  | 92.9  | 92.8  | 94.0  | 95.2  | 93.3  | 90.9  | 85.8  | 149.3 |
| 50000 | 79.7 | 84.4  | 87.8  | 88.8  | 90.8  | 91.5  | 90.0  | 90.0  | 92.7  | 95.0  | 92.5  | 89.4  | 82.9  | 152.1 |
| 63000 | 76.5 | 82.8  | 86.3  | 85.9  | 88.2  | 88.9  | 87.1  | 88.6  | 91.8  | 94.7  | 93.8  | 88.1  | 78.6  | 156.2 |
| 80000 | 71.4 | 80.8  | 85.1  | 82.5  | 84.8  | 86.4  | 84.5  | 84.6  | 90.6  | 94.0  | 92.2  | 84.6  | 72.6  | 161.3 |

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GASPL 107.3 110.4 111.7 112.2 112.3 112.9 114.1 115.9 117.9 120.4 121.9 124.1 123.9 165.0  
 PNL 118.3 121.0 121.5 121.5 122.6 123.7 125.8 128.1 130.4 132.4 133.4 134.2 133.4  
 PNLT 118.3 121.7 121.5 121.5 122.6 124.2 126.8 128.1 130.4 132.4 133.4 134.2 133.4  
 DBA 192.9 201.6 205.7 203.5 205.8 207.2 205.4 205.7 211.2 214.6 212.8 205.6 194.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH222 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1656.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2383.6 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0413 TAPE = X0413F TEST PT NO = 0413 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0413 X04131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 63.9 | 68.5 | 70.8 | 71.5 | 74.0 | 75.0 | 84.3 | 78.5 | 81.5 | 87.0 | 89.1 | 90.6 | 86.2 | 165.4 |
| 63    | 65.1 | 68.7 | 71.0 | 73.3 | 74.3 | 75.8 | 78.1 | 79.8 | 82.5 | 87.8 | 90.4 | 90.6 | 86.7 | 165.8 |
| 80    | 65.5 | 69.6 | 72.4 | 73.9 | 75.2 | 75.9 | 77.9 | 80.4 | 82.7 | 88.4 | 89.5 | 90.7 | 87.2 | 166.0 |
| 100   | 67.4 | 70.3 | 73.4 | 74.7 | 75.7 | 77.4 | 79.2 | 82.2 | 83.4 | 87.9 | 89.0 | 89.4 | 85.8 | 165.2 |
| 125   | 70.3 | 71.7 | 74.8 | 75.1 | 76.8 | 77.8 | 79.6 | 81.8 | 83.6 | 86.8 | 86.8 | 88.0 | 84.6 | 164.2 |
| 160   | 70.0 | 74.6 | 75.3 | 77.1 | 78.1 | 79.8 | 80.8 | 82.0 | 84.5 | 86.7 | 85.7 | 85.6 | 82.2 | 163.3 |
| 200   | 68.0 | 72.3 | 75.1 | 76.3 | 78.2 | 79.4 | 81.1 | 83.0 | 85.1 | 85.8 | 84.5 | 83.5 | 80.5 | 162.7 |
| 250   | 69.4 | 72.3 | 75.1 | 76.3 | 77.8 | 78.8 | 80.7 | 83.0 | 84.6 | 84.7 | 83.3 | 82.3 | 77.1 | 161.9 |
| 315   | 68.5 | 73.0 | 75.6 | 76.6 | 78.7 | 79.7 | 81.2 | 84.1 | 85.5 | 85.8 | 82.5 | 80.9 | 75.9 | 162.5 |
| 400   | 68.8 | 72.5 | 74.8 | 76.4 | 78.0 | 80.2 | 82.2 | 83.7 | 84.4 | 85.0 | 82.4 | 80.0 | 74.1 | 162.4 |
| 500   | 67.3 | 71.4 | 74.9 | 76.4 | 78.6 | 80.0 | 81.4 | 84.3 | 85.3 | 85.1 | 82.2 | 79.5 | 73.0 | 163.0 |
| 630   | 68.5 | 73.6 | 76.1 | 76.7 | 78.2 | 79.9 | 82.3 | 84.9 | 86.5 | 85.4 | 84.4 | 80.3 | 73.2 | 164.5 |
| 800   | 70.2 | 75.2 | 77.0 | 78.0 | 79.4 | 80.5 | 82.6 | 85.0 | 85.6 | 85.7 | 84.1 | 79.8 | 72.0 | 165.1 |
| 1000  | 73.6 | 79.0 | 79.9 | 79.4 | 79.6 | 80.6 | 82.1 | 84.6 | 86.1 | 85.8 | 83.0 | 78.2 | 70.1 | 165.6 |
| 1250  | 73.6 | 80.5 | 83.2 | 83.1 | 82.3 | 82.0 | 82.3 | 83.7 | 84.8 | 84.9 | 81.2 | 77.0 | 68.2 | 166.4 |
| 1600  | 70.0 | 75.9 | 81.5 | 83.9 | 82.9 | 82.9 | 81.2 | 82.0 | 82.6 | 81.2 | 78.5 | 73.2 | 64.0 | 165.9 |
| 2000  | 66.3 | 73.0 | 77.5 | 81.4 | 82.5 | 82.7 | 81.0 | 81.2 | 80.1 | 78.9 | 75.5 | 69.5 | 57.6 | 165.7 |
| 2500  | 63.9 | 69.9 | 74.7 | 77.8 | 79.4 | 80.7 | 79.8 | 78.3 | 77.1 | 75.0 | 71.4 | 64.7 | 51.2 | 165.4 |
| 3150  | 57.4 | 65.1 | 70.6 | 74.9 | 76.3 | 77.7 | 77.3 | 75.8 | 74.3 | 71.7 | 66.3 | 57.7 | 38.0 | 166.3 |
| 4000  | 45.4 | 56.1 | 61.7 | 67.1 | 69.0 | 70.7 | 69.3 | 67.8 | 66.7 | 63.1 | 55.5 | 43.6 | 17.8 | 165.0 |
| 5000  | 33.1 | 46.1 | 54.6 | 58.9 | 61.9 | 62.9 | 62.1 | 60.3 | 58.4 | 54.4 | 44.1 | 27.4 |      | 166.9 |
| 6300  | 12.7 | 29.3 | 40.0 | 45.5 | 49.9 | 51.5 | 49.1 | 46.7 | 44.9 | 39.9 | 25.5 | 1.6  |      | 169.7 |
| 8000  |      | 2.9  | 17.2 | 23.3 | 29.3 | 31.0 | 28.1 | 26.1 | 22.7 | 14.8 |      |      |      | 173.8 |
| 10000 |      |      |      |      |      | 2.2  |      |      |      |      |      |      |      | 178.9 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| CASPL | 81.8 | 86.8 | 89.7 | 91.1  | 91.8  | 92.7  | 93.9  | 95.4  | 96.7  | 98.3  | 98.1  | 98.1  | 94.1 | 182.6 |
| PNL   | 89.1 | 95.1 | 99.1 | 101.4 | 102.3 | 103.0 | 103.1 | 103.5 | 103.9 | 103.7 | 101.5 | 99.1  | 93.6 |       |
| PNLT  | 89.1 | 96.1 | 99.1 | 101.4 | 102.3 | 103.5 | 103.1 | 103.5 | 103.9 | 104.3 | 101.5 | 100.1 | 93.6 |       |
| DBA   | 79.7 | 85.6 | 88.8 | 90.3  | 90.6  | 91.2  | 91.3  | 92.7  | 93.5  | 93.2  | 90.7  | 87.1  | 80.6 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                      |                   |                   |
|-----------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH222 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 83.00       | PAMB HG = 29.45   | RELHUM = 65.9 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 2400.0 FT   | EXT CONFIG = SL      | MIKE HT =         | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1656.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2383.6 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-ZER-0413 TAPE = X04131 TEST PT NO = 6413 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0415 X0415C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.3 | 81.3  | 80.6  | 80.1  | 82.5  | 80.8  | 81.7  | 82.1  | 86.8  | 85.9  | 89.5  | 89.7  | 92.1  | 127.2 |
| 63    | 89.2 | 88.2  | 84.2  | 87.0  | 90.4  | 88.5  | 88.6  | 87.5  | 92.0  | 91.8  | 91.4  | 91.9  | 95.3  | 132.0 |
| 80    | 88.4 | 92.7  | 89.5  | 90.5  | 89.6  | 91.5  | 92.6  | 91.8  | 92.7  | 92.8  | 93.9  | 97.4  | 99.0  | 134.8 |
| 100   | 88.5 | 94.5  | 90.3  | 91.8  | 92.9  | 93.0  | 93.2  | 95.1  | 93.0  | 95.8  | 98.0  | 100.9 | 104.1 | 137.7 |
| 125   | 85.2 | 88.4  | 91.0  | 92.2  | 93.3  | 94.0  | 93.8  | 95.0  | 94.5  | 97.5  | 102.9 | 106.3 | 107.5 | 140.6 |
| 160   | 85.9 | 83.7  | 88.5  | 88.0  | 89.4  | 89.2  | 96.4  | 91.8  | 93.2  | 98.0  | 103.4 | 106.9 | 109.5 | 141.2 |
| 200   | 86.6 | 85.9  | 87.1  | 88.4  | 90.0  | 92.1  | 94.0  | 94.4  | 97.6  | 99.2  | 104.3 | 109.0 | 111.7 | 143.0 |
| 250   | 85.5 | 89.1  | 89.3  | 90.4  | 90.0  | 92.1  | 94.2  | 96.6  | 98.1  | 103.9 | 109.3 | 112.2 | 113.1 | 145.8 |
| 315   | 86.4 | 89.2  | 88.7  | 90.0  | 92.8  | 93.9  | 96.3  | 97.0  | 100.2 | 106.5 | 110.4 | 113.8 | 114.5 | 147.3 |
| 400   | 86.5 | 88.8  | 90.0  | 90.6  | 92.4  | 93.0  | 102.7 | 97.8  | 101.0 | 107.8 | 112.2 | 114.9 | 114.3 | 148.4 |
| 500   | 87.2 | 89.8  | 90.8  | 91.8  | 92.7  | 94.3  | 96.7  | 98.6  | 102.1 | 108.9 | 112.5 | 115.4 | 114.6 | 148.8 |
| 630   | 87.4 | 90.0  | 92.2  | 92.8  | 93.6  | 94.7  | 96.6  | 99.8  | 101.7 | 108.8 | 111.7 | 114.9 | 114.8 | 148.4 |
| 800   | 89.9 | 91.0  | 93.3  | 94.0  | 94.4  | 95.7  | 97.6  | 101.0 | 103.8 | 108.6 | 111.0 | 114.4 | 114.5 | 148.2 |
| 1000  | 93.7 | 93.5  | 94.8  | 94.3  | 95.6  | 96.5  | 98.1  | 101.3 | 104.5 | 108.1 | 109.5 | 113.1 | 113.0 | 147.3 |
| 1250  | 92.8 | 95.8  | 96.3  | 97.0  | 97.0  | 98.3  | 99.7  | 101.6 | 104.8 | 107.7 | 108.0 | 111.2 | 111.7 | 146.4 |
| 1600  | 91.5 | 93.4  | 94.9  | 95.7  | 97.2  | 98.6  | 100.2 | 102.5 | 105.4 | 106.4 | 107.3 | 109.7 | 110.5 | 145.7 |
| 2000  | 93.0 | 93.9  | 95.1  | 96.0  | 96.8  | 98.2  | 100.2 | 102.5 | 105.4 | 106.9 | 106.1 | 108.7 | 108.2 | 145.1 |
| 2500  | 92.5 | 94.8  | 95.8  | 96.3  | 98.2  | 99.1  | 100.3 | 103.9 | 106.5 | 107.8 | 105.8 | 108.4 | 107.1 | 145.5 |
| 3150  | 92.6 | 94.9  | 96.0  | 96.2  | 97.6  | 99.6  | 102.3 | 103.7 | 105.6 | 107.4 | 106.2 | 107.1 | 106.1 | 145.2 |
| 4000  | 91.6 | 94.2  | 95.8  | 96.8  | 97.7  | 99.7  | 101.6 | 104.9 | 107.0 | 107.2 | 106.4 | 107.2 | 105.8 | 145.7 |
| 5000  | 94.1 | 96.3  | 97.9  | 97.3  | 98.6  | 100.1 | 102.0 | 103.3 | 108.0 | 108.6 | 108.7 | 109.0 | 106.5 | 147.1 |
| 6300  | 96.2 | 99.5  | 99.3  | 98.7  | 99.3  | 100.5 | 102.5 | 105.9 | 107.7 | 109.1 | 109.1 | 109.4 | 106.4 | 147.7 |
| 8000  | 99.1 | 103.4 | 103.2 | 101.2 | 99.9  | 101.2 | 102.9 | 105.7 | 107.9 | 108.7 | 108.5 | 107.8 | 106.1 | 148.2 |
| 10000 | 99.5 | 104.7 | 106.0 | 105.3 | 103.3 | 102.8 | 103.3 | 104.9 | 106.6 | 108.4 | 106.7 | 106.9 | 105.2 | 148.9 |
| 12500 | 96.4 | 100.5 | 104.0 | 105.5 | 104.9 | 103.9 | 101.9 | 103.8 | 105.1 | 105.0 | 104.8 | 105.4 | 103.4 | 148.5 |
| 16000 | 94.8 | 98.7  | 101.1 | 102.7 | 104.1 | 103.6 | 101.9 | 102.5 | 103.5 | 103.0 | 103.3 | 103.1 | 101.2 | 148.3 |
| 20000 | 93.5 | 96.8  | 99.2  | 99.8  | 100.8 | 102.4 | 101.4 | 100.5 | 100.8 | 100.6 | 101.0 | 100.8 | 99.2  | 147.9 |
| 25000 | 90.6 | 95.2  | 97.2  | 98.6  | 99.6  | 100.4 | 100.1 | 99.5  | 100.2 | 99.5  | 99.3  | 99.4  | 95.2  | 148.9 |
| 31500 | 84.6 | 90.4  | 92.2  | 94.9  | 95.2  | 96.3  | 95.3  | 95.1  | 96.2  | 95.9  | 95.4  | 94.2  | 89.2  | 147.7 |
| 40000 | 82.3 | 87.2  | 91.0  | 91.9  | 93.5  | 93.6  | 92.9  | 93.0  | 94.3  | 94.7  | 93.3  | 91.4  | 85.8  | 149.6 |
| 50000 | 79.4 | 85.4  | 88.8  | 89.3  | 90.8  | 91.8  | 90.5  | 90.0  | 92.4  | 95.3  | 92.0  | 89.4  | 82.9  | 152.2 |
| 63000 | 76.0 | 83.3  | 87.1  | 86.6  | 88.7  | 89.4  | 87.6  | 88.9  | 91.5  | 95.0  | 93.1  | 87.9  | 80.1  | 156.4 |
| 80000 | 71.9 | 80.3  | 85.1  | 83.5  | 86.0  | 87.1  | 84.0  | 85.6  | 90.3  | 94.5  | 92.2  | 85.3  | 74.6  | 161.6 |

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CASPL 107.4 111.0 112.3 112.6 112.8 113.3 114.3 116.1 118.3 120.6 122.1 124.6 124.5 165.3  
PNL 118.6 121.7 122.1 122.0 122.5 124.0 126.2 128.5 130.8 132.6 133.3 134.8 134.0  
PNLT 118.6 122.3 122.1 122.0 122.5 124.0 127.3 128.5 130.8 132.6 133.3 134.8 134.0  
DBA 105.5 108.7 109.5 109.2 109.5 110.7 112.5 115.1 117.6 119.6 120.3 122.6 122.3

N\* \* DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH223 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1658.1 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2411.5 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0415 TAPE = X0415C TEST PT NO = 0415 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0415 X0415F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 84.3  | 81.3  | 80.6  | 80.1  | 82.5  | 80.8  | 81.7  | 82.1  | 86.8  | 85.9  | 89.5  | 89.7  | 92.1  | 127.2 |
| 63    | 89.2  | 88.2  | 84.2  | 87.0  | 90.4  | 88.5  | 88.6  | 87.5  | 92.0  | 91.8  | 91.4  | 91.9  | 95.3  | 132.0 |
| 80    | 88.4  | 92.7  | 89.5  | 90.5  | 89.6  | 91.5  | 92.6  | 91.8  | 92.7  | 92.8  | 93.9  | 97.4  | 99.0  | 134.8 |
| 100   | 88.5  | 94.5  | 90.3  | 91.8  | 92.9  | 93.0  | 93.2  | 95.1  | 93.0  | 95.8  | 98.0  | 100.9 | 104.1 | 137.7 |
| 125   | 85.2  | 88.4  | 91.0  | 92.2  | 93.3  | 94.0  | 93.8  | 95.0  | 94.5  | 97.5  | 102.9 | 106.3 | 107.5 | 140.6 |
| 160   | 85.9  | 83.7  | 88.5  | 88.0  | 89.4  | 89.2  | 96.4  | 91.8  | 93.2  | 98.0  | 103.4 | 106.9 | 109.5 | 141.2 |
| 200   | 86.6  | 85.9  | 87.1  | 88.4  | 90.0  | 92.1  | 94.0  | 94.4  | 97.6  | 99.2  | 104.3 | 109.0 | 111.7 | 143.0 |
| 250   | 85.5  | 89.1  | 89.3  | 90.4  | 90.0  | 92.1  | 94.2  | 96.6  | 98.1  | 103.9 | 109.3 | 112.2 | 113.1 | 145.8 |
| 315   | 86.4  | 89.2  | 88.7  | 90.0  | 92.8  | 93.9  | 96.3  | 97.0  | 100.2 | 106.5 | 110.4 | 113.8 | 114.5 | 147.3 |
| 400   | 86.5  | 88.8  | 90.0  | 90.6  | 92.4  | 93.0  | 102.7 | 97.8  | 101.0 | 107.8 | 112.2 | 114.9 | 114.3 | 148.4 |
| 500   | 87.2  | 89.8  | 90.8  | 91.8  | 92.7  | 94.3  | 96.7  | 98.6  | 102.1 | 108.9 | 112.5 | 115.4 | 114.6 | 148.8 |
| 630   | 87.4  | 90.0  | 92.2  | 92.8  | 93.6  | 94.7  | 96.6  | 99.8  | 101.7 | 108.8 | 111.7 | 114.9 | 114.8 | 148.4 |
| 800   | 89.9  | 91.0  | 93.3  | 94.0  | 94.4  | 95.7  | 97.6  | 101.0 | 103.8 | 108.6 | 111.0 | 114.4 | 114.5 | 148.2 |
| 1000  | 93.7  | 93.5  | 94.8  | 94.3  | 95.6  | 96.5  | 98.1  | 101.3 | 104.5 | 108.1 | 109.5 | 113.1 | 113.0 | 147.3 |
| 1250  | 92.8  | 95.8  | 96.3  | 97.0  | 97.0  | 98.3  | 99.7  | 101.6 | 104.8 | 107.7 | 108.0 | 111.2 | 111.7 | 146.4 |
| 1600  | 91.5  | 93.4  | 94.9  | 95.7  | 97.2  | 98.6  | 100.2 | 102.5 | 105.4 | 106.4 | 107.3 | 109.7 | 110.5 | 145.7 |
| 2000  | 93.0  | 93.9  | 95.1  | 96.0  | 96.8  | 98.2  | 100.2 | 102.5 | 105.4 | 106.9 | 106.1 | 108.7 | 108.2 | 145.1 |
| 2500  | 92.5  | 94.8  | 95.8  | 96.3  | 98.2  | 99.1  | 100.3 | 103.9 | 106.5 | 107.8 | 105.8 | 108.4 | 107.1 | 145.5 |
| 3150  | 92.6  | 94.9  | 96.0  | 96.2  | 97.6  | 99.6  | 102.3 | 103.7 | 106.6 | 107.4 | 106.2 | 107.1 | 106.1 | 145.2 |
| 4000  | 91.6  | 94.2  | 95.8  | 96.8  | 97.7  | 99.7  | 101.6 | 104.9 | 107.0 | 107.2 | 106.4 | 107.2 | 105.8 | 145.7 |
| 5000  | 94.1  | 96.3  | 97.9  | 97.3  | 98.6  | 100.1 | 102.0 | 105.3 | 108.0 | 108.6 | 108.7 | 109.0 | 106.5 | 147.1 |
| 6300  | 96.2  | 99.5  | 99.3  | 98.7  | 99.3  | 100.5 | 102.5 | 105.9 | 107.7 | 109.1 | 109.1 | 109.4 | 106.4 | 147.7 |
| 8000  | 99.1  | 103.4 | 103.2 | 101.2 | 99.9  | 101.2 | 102.9 | 105.7 | 107.9 | 108.7 | 108.5 | 107.8 | 106.1 | 149.2 |
| 10000 | 99.5  | 104.7 | 106.0 | 105.3 | 103.3 | 102.8 | 103.3 | 104.9 | 106.6 | 108.4 | 106.7 | 106.9 | 105.2 | 148.9 |
| 12500 | 96.4  | 100.5 | 104.0 | 105.5 | 104.9 | 103.9 | 101.9 | 103.8 | 105.1 | 105.0 | 104.8 | 105.4 | 103.4 | 148.5 |
| 16000 | 94.8  | 96.7  | 101.1 | 102.7 | 104.1 | 103.6 | 101.9 | 102.5 | 103.5 | 103.0 | 103.3 | 103.1 | 101.2 | 148.3 |
| 20000 | 93.5  | 96.8  | 99.2  | 99.8  | 100.8 | 102.4 | 101.4 | 100.5 | 100.8 | 100.6 | 101.0 | 100.8 | 99.2  | 147.9 |
| 25000 | 90.6  | 95.2  | 97.2  | 98.6  | 99.6  | 100.4 | 100.1 | 99.5  | 100.2 | 99.5  | 99.3  | 99.4  | 95.2  | 148.9 |
| 31500 | 84.6  | 90.4  | 92.2  | 94.9  | 95.2  | 96.3  | 95.3  | 95.1  | 96.2  | 95.9  | 95.4  | 94.2  | 89.2  | 147.7 |
| 40000 | 82.3  | 87.2  | 91.0  | 91.8  | 93.5  | 93.6  | 92.9  | 93.0  | 94.3  | 94.7  | 93.3  | 91.4  | 85.8  | 149.6 |
| 50000 | 75.4  | 85.4  | 88.8  | 89.3  | 90.8  | 91.8  | 90.5  | 90.0  | 92.4  | 95.3  | 92.0  | 89.4  | 82.9  | 152.2 |
| 63000 | 76.0  | 83.3  | 87.1  | 86.6  | 88.7  | 89.4  | 87.6  | 88.9  | 91.5  | 95.0  | 93.1  | 87.9  | 80.1  | 156.4 |
| 80000 | 71.9  | 80.3  | 85.1  | 83.5  | 86.0  | 87.1  | 84.0  | 85.6  | 90.3  | 94.5  | 92.2  | 85.3  | 74.6  | 161.6 |
| GASPL | 107.4 | 111.0 | 112.3 | 112.6 | 112.8 | 113.3 | 114.3 | 116.1 | 118.3 | 120.6 | 122.1 | 124.6 | 124.5 | 165.3 |
| PNL   | 118.6 | 121.7 | 122.1 | 122.0 | 122.5 | 124.0 | 126.2 | 128.5 | 130.8 | 132.6 | 133.3 | 134.8 | 134.0 |       |
| PNLT  | 118.6 | 122.3 | 122.1 | 122.0 | 122.5 | 124.0 | 127.3 | 128.5 | 130.8 | 132.6 | 133.3 | 134.8 | 134.0 |       |
| DBA   | 193.1 | 201.2 | 205.9 | 204.4 | 206.9 | 207.9 | 205.1 | 206.5 | 210.9 | 215.1 | 212.7 | 206.2 | 196.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH223 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1658.1 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2411.5 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-0415 TAPE = X0415F TEST PT NO = 0415 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0415 X04151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 64.6 | 68.5 | 70.8 | 72.0 | 74.3 | 75.0 | 84.5 | 79.3 | 81.8 | 87.5 | 90.4 | 90.9 | 86.9 | 166.0 |
| 63    | 65.4 | 69.4 | 71.5 | 73.3 | 74.6 | 76.3 | 78.6 | 80.0 | 82.8 | 88.5 | 90.6 | 91.4 | 87.2 | 166.4 |
| 80    | 65.5 | 69.6 | 72.9 | 74.2 | 75.4 | 76.7 | 78.4 | 81.2 | 82.4 | 88.4 | 89.8 | 90.7 | 87.2 | 166.0 |
| 100   | 67.9 | 70.5 | 73.9 | 75.4 | 76.2 | 77.7 | 79.4 | 82.4 | 84.4 | 88.1 | 89.0 | 90.1 | 86.8 | 165.8 |
| 125   | 71.6 | 72.9 | 75.3 | 75.6 | 77.3 | 78.3 | 79.8 | 82.6 | 85.1 | 87.5 | 87.3 | 88.7 | 85.1 | 164.9 |
| 160   | 70.5 | 75.1 | 76.8 | 78.1 | 78.6 | 80.1 | 81.3 | 82.8 | 85.3 | 87.0 | 85.7 | 86.6 | 83.4 | 164.0 |
| 200   | 69.0 | 72.5 | 75.1 | 76.8 | 78.7 | 80.2 | 81.6 | 83.5 | 85.6 | 85.5 | 84.8 | 84.8 | 81.7 | 163.3 |
| 250   | 70.1 | 72.8 | 75.1 | 76.8 | 78.1 | 79.6 | 81.4 | 83.3 | 85.4 | 85.7 | 83.3 | 83.3 | 78.8 | 162.7 |
| 315   | 69.2 | 73.3 | 75.6 | 76.8 | 79.2 | 80.2 | 81.2 | 84.4 | 86.2 | 86.3 | 82.5 | 82.4 | 76.9 | 163.1 |
| 400   | 68.8 | 73.0 | 75.3 | 76.4 | 78.2 | 80.5 | 82.9 | 83.9 | 84.9 | 85.5 | 82.4 | 80.5 | 74.9 | 162.8 |
| 500   | 67.3 | 71.9 | 74.9 | 76.7 | 78.1 | 80.2 | 81.9 | 84.8 | 86.0 | 84.9 | 82.2 | 80.0 | 73.5 | 163.3 |
| 630   | 69.3 | 73.6 | 76.6 | 76.9 | 78.7 | 80.4 | 82.1 | 84.9 | 86.7 | 85.9 | 83.9 | 81.1 | 73.2 | 164.7 |
| 800   | 70.9 | 76.4 | 77.7 | 78.0 | 79.1 | 80.5 | 82.4 | 85.3 | 86.1 | 86.0 | 83.9 | 80.8 | 72.0 | 165.3 |
| 1000  | 73.4 | 80.0 | 81.4 | 80.4 | 79.6 | 81.1 | 82.6 | 84.9 | 86.1 | 85.3 | 82.8 | 78.4 | 70.6 | 165.8 |
| 1250  | 73.3 | 81.0 | 83.9 | 84.3 | 82.8 | 82.5 | 82.8 | 83.9 | 84.5 | 84.7 | 80.4 | 76.8 | 68.2 | 166.5 |
| 1600  | 69.3 | 76.1 | 81.5 | 84.2 | 84.2 | 83.4 | 81.2 | 82.5 | 82.6 | 80.7 | 77.7 | 73.9 | 64.0 | 166.1 |
| 2000  | 66.8 | 73.8 | 78.2 | 81.2 | 83.2 | 83.0 | 81.0 | 80.9 | 80.6 | 78.1 | 75.2 | 70.0 | 58.8 | 165.9 |
| 2500  | 63.6 | 70.7 | 75.4 | 77.5 | 79.4 | 81.2 | 80.0 | 78.3 | 77.1 | 74.5 | 71.2 | 64.9 | 51.9 | 165.5 |
| 3150  | 57.4 | 66.6 | 71.6 | 74.9 | 76.8 | 77.9 | 77.3 | 75.8 | 74.6 | 71.0 | 66.1 | 58.5 | 39.5 | 166.5 |
| 4000  | 45.1 | 57.1 | 62.7 | 67.9 | 69.5 | 71.0 | 69.6 | 68.1 | 66.7 | 62.6 | 56.0 | 44.4 | 19.1 | 165.3 |
| 5000  | 33.1 | 46.4 | 55.3 | 59.4 | 62.7 | 63.4 | 62.1 | 60.5 | 58.6 | 53.9 | 44.1 | 27.9 |      | 167.2 |
| 6300  | 12.4 | 30.3 | 41.0 | 46.0 | 49.9 | 51.7 | 49.6 | 46.7 | 44.7 | 40.2 | 25.0 | 1.8  |      | 169.8 |
| 8000  |      | 3.4  | 18.0 | 24.1 | 29.8 | 31.5 | 28.6 | 26.3 | 22.4 | 15.1 |      |      |      | 174.0 |
| 10000 |      |      |      |      | 0.2  | 3.0  |      |      |      |      |      |      |      | 179.2 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 0ASPL | 82.1 | 87.5 | 90.3 | 91.5  | 92.2  | 93.1  | 94.2  | 95.7  | 97.2  | 98.5  | 98.3  | 98.6  | 94.7 | 182.7 |
| PNL   | 89.1 | 95.7 | 99.5 | 101.7 | 102.8 | 103.5 | 103.4 | 103.6 | 104.1 | 103.6 | 101.4 | 99.8  | 94.4 |       |
| PNLT  | 89.1 | 96.3 | 99.5 | 101.7 | 103.4 | 103.5 | 103.4 | 103.6 | 104.1 | 104.3 | 101.4 | 100.8 | 94.4 |       |
| DBA   | 79.7 | 86.3 | 89.4 | 90.8  | 91.2  | 91.6  | 91.5  | 92.9  | 93.7  | 93.1  | 90.4  | 87.8  | 81.3 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                          |                      |                   |                   |
|-----------------|----------------------|--------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH223 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH     | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE   | TAMB F = 83.00       | PAMB HG = 29.45   | RELHUM = 65.9 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 2400.0 FT | EXT CONFIG = SL      | MIKE HT =         | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =                | RPM V8 = 1658.1 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =               | RPM V18 = 2411.5 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-ZER-0415 TAPE = X04151 TEST PT NO = 0415 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0416 X0416C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.5  | 85.1  | 80.6  | 82.6  | 83.0  | 81.1  | 81.2  | 83.6  | 84.8  | 85.4  | 92.0  | 91.0  | 98.1  | 129.7 |
| 63    | 90.9  | 88.7  | 85.7  | 87.0  | 89.6  | 87.0  | 88.6  | 89.5  | 88.7  | 89.0  | 92.2  | 90.4  | 97.8  | 131.9 |
| 80    | 87.9  | 92.2  | 88.7  | 90.3  | 89.6  | 91.2  | 91.9  | 91.3  | 91.5  | 91.6  | 92.9  | 95.9  | 99.5  | 134.2 |
| 100   | 87.0  | 92.5  | 87.5  | 89.1  | 90.9  | 90.5  | 92.2  | 93.6  | 91.5  | 93.1  | 95.7  | 99.2  | 102.6 | 135.8 |
| 125   | 83.9  | 87.2  | 89.5  | 90.0  | 90.8  | 91.2  | 92.1  | 92.2  | 91.2  | 93.8  | 89.2  | 103.1 | 105.3 | 137.7 |
| 160   | 83.4  | 81.0  | 86.0  | 85.3  | 86.6  | 86.2  | 93.6  | 88.3  | 89.5  | 94.0  | 100.4 | 103.6 | 107.5 | 138.5 |
| 200   | 85.3  | 83.6  | 83.9  | 83.7  | 86.0  | 87.4  | 91.0  | 91.2  | 93.4  | 94.4  | 99.8  | 105.0 | 108.4 | 139.3 |
| 250   | 81.3  | 84.3  | 84.1  | 85.4  | 86.0  | 87.6  | 91.0  | 92.6  | 93.6  | 99.1  | 105.5 | 108.5 | 109.6 | 142.1 |
| 315   | 83.9  | 84.9  | 84.2  | 86.2  | 87.1  | 88.7  | 93.1  | 93.0  | 95.2  | 101.2 | 105.9 | 109.6 | 110.0 | 142.9 |
| 400   | 81.5  | 84.3  | 85.3  | 85.1  | 86.9  | 87.5  | 98.9  | 92.3  | 96.0  | 102.8 | 107.5 | 110.2 | 108.1 | 143.4 |
| 500   | 82.5  | 84.5  | 85.3  | 86.3  | 87.4  | 88.5  | 91.9  | 93.6  | 96.6  | 103.6 | 107.8 | 109.4 | 105.6 | 142.8 |
| 630   | 81.9  | 84.7  | 85.7  | 87.0  | 87.9  | 89.2  | 91.4  | 94.3  | 97.0  | 104.3 | 106.7 | 107.4 | 102.8 | 141.7 |
| 800   | 82.9  | 85.5  | 86.8  | 87.3  | 88.6  | 90.0  | 92.6  | 95.3  | 98.8  | 104.3 | 105.7 | 104.6 | 98.3  | 140.8 |
| 1000  | 85.2  | 85.7  | 88.0  | 88.3  | 89.9  | 91.0  | 93.1  | 96.0  | 99.7  | 103.6 | 104.2 | 101.4 | 94.0  | 139.8 |
| 1250  | 86.0  | 89.6  | 89.6  | 89.7  | 90.5  | 92.3  | 94.5  | 97.1  | 100.1 | 103.4 | 103.3 | 97.7  | 92.5  | 139.5 |
| 1600  | 86.5  | 88.7  | 89.4  | 90.2  | 92.0  | 92.8  | 95.2  | 97.7  | 101.4 | 102.9 | 102.8 | 95.5  | 90.7  | 139.5 |
| 2000  | 87.5  | 87.4  | 89.6  | 90.5  | 91.8  | 93.4  | 95.9  | 98.7  | 101.3 | 103.1 | 102.1 | 94.2  | 89.2  | 139.6 |
| 2500  | 87.5  | 89.5  | 90.6  | 91.1  | 93.0  | 94.3  | 96.5  | 100.1 | 102.2 | 104.5 | 101.0 | 93.9  | 88.9  | 140.4 |
| 3150  | 88.6  | 89.9  | 90.9  | 92.2  | 93.1  | 95.1  | 98.3  | 100.2 | 102.3 | 104.4 | 101.1 | 93.1  | 87.8  | 140.6 |
| 4000  | 89.3  | 90.2  | 92.1  | 92.5  | 94.2  | 95.7  | 98.0  | 102.1 | 103.2 | 104.2 | 100.2 | 93.0  | 88.0  | 141.2 |
| 5000  | 93.3  | 93.8  | 93.9  | 93.6  | 95.1  | 96.3  | 99.7  | 102.3 | 104.5 | 104.6 | 102.9 | 95.5  | 90.0  | 142.4 |
| 6300  | 96.2  | 97.3  | 96.8  | 95.9  | 96.8  | 97.2  | 100.8 | 103.7 | 105.4 | 107.0 | 103.9 | 97.7  | 92.2  | 144.3 |
| 8000  | 99.8  | 101.6 | 100.9 | 98.4  | 97.4  | 98.2  | 100.4 | 103.7 | 105.9 | 107.9 | 105.7 | 99.2  | 94.1  | 145.8 |
| 10000 | 100.3 | 104.5 | 105.2 | 103.3 | 101.3 | 100.8 | 101.8 | 103.9 | 106.3 | 108.9 | 106.4 | 101.6 | 95.2  | 147.9 |
| 12500 | 97.1  | 100.7 | 103.8 | 104.8 | 103.6 | 102.4 | 101.7 | 102.8 | 105.6 | 106.8 | 105.3 | 100.9 | 95.1  | 148.0 |
| 16000 | 95.1  | 98.4  | 98.9  | 101.5 | 102.8 | 102.6 | 101.9 | 102.5 | 103.5 | 104.0 | 103.5 | 99.2  | 93.4  | 147.6 |
| 20000 | 93.7  | 96.3  | 97.9  | 99.0  | 100.1 | 100.9 | 101.9 | 101.0 | 101.3 | 101.6 | 101.3 | 96.8  | 91.5  | 147.6 |
| 25000 | 90.3  | 93.7  | 95.7  | 96.9  | 98.1  | 99.2  | 100.8 | 100.3 | 100.5 | 100.1 | 98.0  | 94.4  | 88.7  | 148.3 |
| 31500 | 84.1  | 88.9  | 90.9  | 92.2  | 93.5  | 94.9  | 95.3  | 95.4  | 96.2  | 95.6  | 93.4  | 89.2  | 82.2  | 146.7 |
| 40000 | 80.8  | 85.0  | 88.5  | 88.6  | 90.7  | 91.6  | 92.6  | 92.6  | 93.5  | 93.2  | 90.5  | 85.4  | 79.0  | 147.8 |
| 50000 | 77.3  | 82.5  | 85.1  | 85.7  | 87.9  | 89.2  | 89.1  | 89.4  | 90.8  | 90.6  | 87.4  | 81.6  | 74.3  | 149.3 |
| 63000 | 73.4  | 79.0  | 82.0  | 81.3  | 84.7  | 86.1  | 85.6  | 86.6  | 88.5  | 89.4  | 85.5  | 77.1  | 68.8  | 151.9 |
| 80000 | 66.8  | 76.9  | 79.9  | 77.8  | 80.6  | 82.0  | 81.4  | 81.7  | 84.9  | 88.8  | 80.7  | 70.5  | 60.3  | 155.7 |

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GASPL 106.8 109.5 110.4 110.4 110.4 110.7 112.2 113.8 115.7 117.9 118.0 117.9 117.3 161.2  
PNL 117.1 118.8 119.3 118.6 118.9 119.9 122.9 125.4 127.3 129.6 128.5 125.9 123.8  
PNLT 117.1 118.8 119.3 118.6 118.9 119.9 123.9 125.4 127.3 129.6 128.5 125.9 123.8  
DBA 104.1 106.3 106.7 105.6 105.7 106.6 109.2 112.0 114.2 116.5 115.7 113.6 110.7

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VERTICL = ADH230 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 71.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1654.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2406.7 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-400-0416 TAPE = X0416C TEST PT NO = 0416 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0416 X0416F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 88.4  | 90.2  | 88.7  | 88.5  | 87.5  | 87.6  | 89.1  | 89.0  | 91.7  | 96.9  | 101.0 | 105.1 | 107.4 | 139.2 |
| 315   | 88.4  | 90.2  | 88.7  | 88.5  | 88.7  | 88.9  | 91.7  | 90.2  | 92.8  | 98.8  | 103.0 | 106.5 | 106.9 | 140.1 |
| 400   | 90.6  | 90.7  | 88.7  | 89.4  | 88.7  | 87.8  | 97.6  | 89.6  | 93.6  | 99.9  | 103.8 | 106.7 | 106.1 | 140.6 |
| 500   | 88.8  | 90.5  | 90.1  | 88.4  | 89.3  | 88.9  | 90.7  | 90.9  | 94.4  | 101.0 | 103.3 | 105.7 | 105.5 | 140.0 |
| 630   | 90.2  | 90.9  | 90.3  | 89.8  | 89.8  | 89.6  | 90.2  | 91.7  | 97.7  | 102.8 | 104.4 | 105.8 | 105.2 | 140.8 |
| 800   | 89.6  | 91.1  | 90.7  | 90.5  | 90.7  | 90.5  | 92.1  | 93.7  | 99.5  | 103.2 | 104.4 | 104.9 | 104.6 | 140.8 |
| 1000  | 90.6  | 91.9  | 91.8  | 90.9  | 92.0  | 91.6  | 92.8  | 94.7  | 99.5  | 102.8 | 103.4 | 101.2 | 103.3 | 139.9 |
| 1250  | 92.9  | 92.2  | 93.1  | 91.9  | 92.7  | 93.1  | 94.0  | 95.6  | 100.6 | 102.0 | 102.6 | 98.8  | 101.5 | 139.6 |
| 1600  | 93.2  | 95.8  | 94.6  | 93.3  | 94.4  | 93.9  | 94.8  | 96.2  | 100.6 | 102.1 | 101.7 | 97.2  | 99.8  | 139.7 |
| 2000  | 94.2  | 95.2  | 94.6  | 94.1  | 94.5  | 94.7  | 95.8  | 97.3  | 101.8 | 103.8 | 100.7 | 96.8  | 99.1  | 140.4 |
| 2500  | 95.2  | 94.0  | 94.9  | 94.5  | 95.9  | 95.9  | 96.8  | 99.0  | 102.4 | 104.1 | 101.3 | 96.3  | 98.1  | 140.9 |
| 3150  | 95.1  | 96.1  | 96.0  | 95.2  | 96.3  | 97.2  | 99.0  | 99.6  | 104.1 | 104.6 | 100.9 | 96.7  | 98.6  | 141.9 |
| 4000  | 96.2  | 96.6  | 96.5  | 96.6  | 97.9  | 98.2  | 99.5  | 102.2 | 105.6 | 105.2 | 104.0 | 99.7  | 101.7 | 143.5 |
| 5000  | 96.8  | 96.9  | 97.8  | 97.2  | 99.1  | 99.3  | 101.6 | 102.6 | 106.6 | 107.8 | 105.1 | 102.2 | 104.3 | 145.2 |
| 6300  | 100.5 | 100.4 | 99.6  | 98.4  | 100.5 | 100.2 | 102.6 | 104.1 | 107.2 | 108.9 | 107.2 | 104.1 | 106.6 | 146.8 |
| 8000  | 101.5 | 102.3 | 101.4 | 99.9  | 100.9 | 101.2 | 102.1 | 104.0 | 107.9 | 110.2 | 108.3 | 107.0 | 108.0 | 148.2 |
| 10000 | 105.4 | 106.6 | 105.1 | 102.0 | 104.7 | 103.8 | 103.5 | 104.3 | 108.3 | 109.3 | 108.5 | 107.5 | 109.1 | 149.8 |
| 12500 | 104.4 | 108.3 | 108.8 | 106.5 | 107.6 | 105.4 | 103.9 | 103.9 | 107.5 | 107.9 | 108.0 | 106.9 | 108.4 | 151.4 |
| 16000 | 103.4 | 106.3 | 108.5 | 108.5 | 106.9 | 105.6 | 104.3 | 104.1 | 106.1 | 106.2 | 106.5 | 105.2 | 106.9 | 152.2 |
| 20000 | 101.0 | 103.6 | 103.2 | 104.8 | 104.1 | 103.9 | 104.4 | 102.9 | 105.9 | 105.4 | 104.2 | 103.9 | 105.4 | 151.8 |
| 25000 | 99.0  | 100.9 | 101.6 | 101.7 | 102.1 | 102.2 | 103.3 | 102.1 | 101.8 | 101.1 | 99.7  | 99.1  | 99.8  | 151.5 |
| 31500 | 94.9  | 97.5  | 98.7  | 98.8  | 98.1  | 97.9  | 97.7  | 96.9  | 99.5  | 99.0  | 97.0  | 95.4  | 96.9  | 151.0 |
| 40000 | 90.6  | 94.2  | 94.7  | 94.4  | 95.3  | 94.6  | 94.9  | 93.7  | 96.3  | 95.6  | 92.7  | 89.9  | 89.5  | 151.4 |
| 50000 | 86.9  | 90.8  | 91.3  | 90.5  | 92.5  | 92.2  | 91.0  | 90.0  | 94.9  | 95.2  | 91.6  | 86.2  | 84.9  | 153.3 |
| 63000 | 82.5  | 86.4  | 87.6  | 86.6  | 89.3  | 89.1  | 87.4  | 87.1  | 92.6  | 96.0  | 88.2  | 81.0  | 77.7  | 156.3 |
| 80000 | 77.1  | 81.4  | 83.0  | 80.7  | 85.2  | 85.0  | 83.2  | 82.0  | 82.8  | 86.1  | 78.4  | 71.2  | 67.9  | 156.4 |
| OASPL | 112.1 | 114.2 | 114.5 | 113.7 | 114.0 | 113.2 | 113.6 | 113.9 | 117.4 | 118.7 | 118.0 | 117.4 | 118.5 | 163.7 |
| PNL   | 120.8 | 121.2 | 120.6 | 119.6 | 121.1 | 121.0 | 122.9 | 124.2 | 128.0 | 129.7 | 128.5 | 126.4 | 128.2 |       |
| PNLT  | 120.8 | 121.2 | 120.6 | 119.6 | 121.1 | 121.0 | 124.0 | 124.2 | 128.0 | 129.7 | 128.5 | 126.4 | 128.2 |       |
| DBA   | 198.8 | 203.0 | 204.4 | 202.5 | 206.5 | 206.2 | 204.5 | 203.5 | 206.1 | 209.3 | 201.8 | 194.9 | 192.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH230 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 71.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1654.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2406.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-0416 TAPE = X0416F TEST PT NO = 0416 NC = AE058 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0416 X04161

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 68.7 | 70.3  | 69.5  | 70.8  | 70.6  | 69.8  | 79.5  | 71.1  | 74.4  | 79.6  | 81.9  | 82.6 | 78.8 | 158.2 |
| 63    | 67.0 | 70.1  | 70.8  | 69.9  | 71.2  | 70.9  | 72.6  | 72.4  | 75.1  | 80.7  | 81.4  | 81.6 | 78.1 | 157.6 |
| 80    | 68.2 | 70.6  | 71.0  | 71.2  | 71.7  | 71.6  | 72.0  | 73.1  | 78.4  | 82.5  | 82.5  | 81.6 | 77.6 | 158.3 |
| 100   | 67.6 | 70.7  | 71.4  | 71.9  | 72.5  | 72.4  | 73.9  | 75.1  | 80.1  | 82.7  | 82.4  | 80.6 | 77.0 | 158.4 |
| 125   | 68.5 | 71.4  | 72.4  | 72.2  | 73.7  | 73.5  | 74.5  | 76.0  | 80.1  | 82.2  | 81.3  | 76.8 | 75.4 | 157.5 |
| 160   | 70.5 | 71.5  | 73.5  | 73.1  | 74.3  | 74.9  | 75.6  | 76.8  | 81.0  | 81.3  | 80.3  | 74.1 | 73.2 | 157.2 |
| 200   | 70.7 | 74.9  | 74.8  | 74.3  | 75.9  | 75.5  | 76.3  | 77.2  | 80.9  | 81.2  | 79.2  | 72.2 | 71.0 | 157.3 |
| 250   | 71.3 | 74.1  | 74.6  | 74.9  | 75.7  | 76.1  | 77.0  | 78.0  | 81.9  | 82.6  | 77.9  | 71.4 | 69.7 | 158.0 |
| 315   | 71.9 | 72.5  | 74.6  | 75.0  | 76.9  | 77.0  | 77.8  | 79.5  | 82.1  | 82.6  | 78.0  | 70.3 | 67.9 | 158.5 |
| 400   | 71.3 | 74.2  | 75.4  | 75.4  | 77.0  | 78.0  | 79.7  | 79.8  | 83.5  | 82.6  | 77.1  | 70.1 | 67.4 | 159.5 |
| 500   | 71.9 | 74.3  | 75.5  | 76.5  | 78.3  | 78.8  | 79.9  | 82.1  | 84.6  | 82.9  | 79.7  | 72.5 | 69.5 | 161.1 |
| 630   | 72.1 | 74.2  | 76.5  | 76.8  | 79.2  | 79.6  | 81.7  | 82.2  | 85.3  | 85.1  | 80.3  | 74.3 | 71.0 | 162.8 |
| 800   | 75.3 | 77.3  | 78.0  | 77.7  | 80.3  | 80.3  | 82.5  | 83.4  | 85.6  | 85.8  | 82.0  | 75.5 | 72.2 | 164.4 |
| 1000  | 75.8 | 78.9  | 79.6  | 79.1  | 80.6  | 81.1  | 81.8  | 83.1  | 86.1  | 86.8  | 82.6  | 77.7 | 72.5 | 165.8 |
| 1250  | 79.2 | 82.8  | 83.1  | 81.0  | 84.3  | 83.5  | 83.1  | 83.3  | 86.3  | 85.6  | 82.3  | 77.3 | 72.1 | 167.4 |
| 1600  | 77.3 | 84.0  | 86.3  | 85.1  | 87.0  | 84.9  | 83.2  | 82.6  | 85.0  | 83.6  | 80.9  | 75.5 | 69.0 | 169.0 |
| 2000  | 75.4 | 81.4  | 85.6  | 86.9  | 86.0  | 85.0  | 83.4  | 82.5  | 83.2  | 81.3  | 78.4  | 72.1 | 64.5 | 169.8 |
| 2500  | 71.2 | 77.5  | 79.4  | 82.6  | 82.7  | 82.7  | 83.0  | 80.6  | 82.1  | 79.3  | 74.3  | 68.0 | 58.1 | 169.4 |
| 3150  | 65.8 | 72.3  | 76.0  | 77.9  | 79.3  | 79.7  | 80.5  | 78.3  | 76.2  | 72.6  | 66.5  | 58.2 | 44.1 | 169.1 |
| 4000  | 55.4 | 64.2  | 69.2  | 71.8  | 72.3  | 72.5  | 71.9  | 69.8  | 70.1  | 65.7  | 57.5  | 45.6 | 26.8 | 168.6 |
| 5000  | 41.4 | 53.3  | 59.1  | 61.9  | 64.5  | 64.3  | 64.1  | 61.2  | 60.7  | 54.8  | 43.5  | 26.4 |      | 169.0 |
| 6300  | 19.9 | 35.7  | 44.1  | 47.2  | 51.7  | 52.1  | 50.1  | 46.7  | 47.1  | 40.1  | 24.6  |      |      | 170.9 |
| 8000  |      | 6.5   | 18.5  | 24.1  | 30.3  | 31.3  | 28.4  | 24.5  | 23.5  | 16.1  |       |      |      | 173.9 |
| 10000 |      |       |       |       |       | 0.9   |       |       |       |       |       |      |      | 174.0 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| OSPL  | 85.9 | 90.1  | 92.0  | 92.2  | 93.3  | 92.7  | 93.0  | 93.0  | 95.7  | 95.8  | 93.2  | 89.8 | 86.2 | 161.3 |
| PNL   | 95.0 | 100.4 | 103.1 | 104.1 | 104.5 | 103.9 | 104.1 | 103.0 | 104.9 | 103.6 | 100.4 | 94.8 | 89.4 |       |
| PNLT  | 95.0 | 101.0 | 103.7 | 105.1 | 104.5 | 104.4 | 104.1 | 103.0 | 105.5 | 104.1 | 100.4 | 94.8 | 89.4 |       |
| DBA   | 85.2 | 90.0  | 92.2  | 92.4  | 93.4  | 92.6  | 92.4  | 92.1  | 94.3  | 93.6  | 89.9  | 84.2 | 79.3 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH230 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 71.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1654.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2406.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-0416 TAPE = X04161 TEST PT NO = 0416 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0417 X0417C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 83.1  | 81.1  | 81.6  | 82.5  | 81.1  | 81.2  | 86.4  | 86.1  | 85.7  | 89.3  | 89.7  | 92.4  | 127.6 |
| 63    | 91.7  | 91.0  | 85.2  | 88.8  | 89.9  | 89.0  | 88.4  | 91.8  | 91.5  | 89.0  | 91.9  | 91.1  | 95.3  | 132.5 |
| 80    | 88.9  | 92.7  | 89.5  | 90.8  | 90.6  | 92.5  | 93.4  | 92.3  | 93.7  | 93.6  | 94.9  | 97.6  | 100.3 | 135.5 |
| 100   | 89.5  | 95.3  | 90.8  | 92.3  | 93.4  | 93.3  | 93.9  | 95.8  | 94.0  | 96.8  | 99.0  | 102.2 | 105.1 | 138.6 |
| 125   | 85.7  | 88.9  | 91.2  | 92.5  | 93.8  | 94.5  | 95.1  | 96.0  | 95.5  | 98.5  | 103.7 | 107.1 | 108.5 | 141.4 |
| 160   | 86.4  | 84.2  | 89.5  | 88.5  | 89.6  | 90.0  | 96.4  | 92.3  | 93.7  | 99.0  | 104.2 | 107.6 | 110.5 | 142.0 |
| 200   | 87.1  | 86.1  | 87.9  | 88.7  | 90.8  | 92.9  | 95.3  | 95.2  | 98.4  | 100.2 | 105.3 | 109.5 | 112.4 | 143.8 |
| 250   | 86.8  | 90.1  | 90.3  | 91.1  | 91.2  | 92.6  | 95.0  | 97.9  | 99.3  | 105.4 | 110.8 | 113.5 | 114.1 | 147.1 |
| 315   | 86.9  | 89.4  | 89.2  | 90.7  | 93.1  | 94.9  | 97.8  | 97.5  | 100.9 | 106.7 | 111.4 | 115.1 | 115.2 | 148.3 |
| 400   | 87.2  | 89.8  | 90.8  | 91.1  | 92.9  | 93.3  | 103.4 | 98.6  | 101.5 | 108.3 | 113.0 | 115.4 | 114.8 | 149.0 |
| 500   | 88.2  | 90.0  | 90.8  | 92.1  | 92.9  | 94.3  | 97.2  | 98.6  | 102.8 | 108.9 | 114.0 | 116.4 | 115.6 | 149.8 |
| 630   | 88.2  | 91.0  | 92.5  | 93.5  | 94.6  | 96.0  | 96.6  | 99.8  | 102.7 | 109.8 | 113.2 | 116.1 | 116.5 | 149.8 |
| 800   | 90.9  | 92.0  | 93.5  | 94.3  | 95.1  | 96.2  | 98.1  | 101.0 | 104.3 | 109.6 | 112.7 | 115.9 | 115.8 | 149.5 |
| 1000  | 94.7  | 94.7  | 95.8  | 95.0  | 96.4  | 97.0  | 98.9  | 101.8 | 105.0 | 108.8 | 110.7 | 114.9 | 115.3 | 148.7 |
| 1250  | 93.8  | 96.6  | 97.3  | 98.2  | 98.0  | 99.1  | 100.5 | 101.9 | 105.3 | 108.9 | 109.8 | 113.5 | 113.7 | 148.0 |
| 1600  | 92.0  | 94.7  | 95.6  | 96.7  | 98.0  | 98.9  | 100.4 | 103.0 | 105.9 | 107.9 | 109.3 | 112.0 | 113.2 | 147.4 |
| 2000  | 94.0  | 94.9  | 96.1  | 96.2  | 97.6  | 98.4  | 100.7 | 103.0 | 105.9 | 107.9 | 107.9 | 111.5 | 110.5 | 146.6 |
| 2500  | 93.3  | 96.3  | 97.1  | 97.6  | 98.7  | 99.6  | 101.3 | 104.9 | 107.2 | 108.8 | 107.3 | 110.6 | 108.6 | 146.8 |
| 3150  | 93.4  | 96.2  | 97.0  | 97.2  | 98.1  | 99.6  | 102.0 | 104.0 | 106.3 | 108.4 | 108.4 | 109.3 | 107.3 | 146.4 |
| 4000  | 92.6  | 95.2  | 97.1  | 97.5  | 98.7  | 100.2 | 102.1 | 105.6 | 107.0 | 108.4 | 108.2 | 109.0 | 106.5 | 146.6 |
| 5000  | 95.1  | 97.3  | 99.2  | 98.8  | 98.9  | 100.8 | 103.0 | 105.8 | 108.3 | 109.4 | 110.2 | 109.5 | 106.5 | 147.8 |
| 6300  | 97.5  | 101.3 | 100.8 | 100.7 | 100.5 | 101.2 | 103.5 | 105.9 | 108.2 | 109.1 | 109.6 | 109.7 | 106.4 | 148.2 |
| 8000  | 100.3 | 104.9 | 104.7 | 102.7 | 101.6 | 101.9 | 102.9 | 105.7 | 108.2 | 108.7 | 109.2 | 108.8 | 105.9 | 148.8 |
| 10000 | 99.0  | 104.2 | 106.7 | 106.8 | 105.0 | 103.8 | 103.3 | 104.9 | 106.3 | 108.4 | 107.7 | 107.6 | 105.2 | 149.4 |
| 12500 | 97.1  | 100.2 | 104.0 | 106.0 | 105.6 | 105.4 | 103.2 | 104.1 | 105.4 | 106.0 | 105.8 | 105.9 | 103.4 | 149.1 |
| 16000 | 95.6  | 99.4  | 100.9 | 103.0 | 104.1 | 104.3 | 102.9 | 103.0 | 103.8 | 103.5 | 103.8 | 103.6 | 101.2 | 148.7 |
| 20000 | 93.7  | 96.8  | 99.2  | 100.8 | 101.1 | 102.6 | 102.2 | 100.8 | 101.3 | 101.1 | 101.8 | 101.6 | 99.0  | 148.4 |
| 25000 | 91.1  | 94.9  | 97.7  | 98.9  | 99.8  | 100.7 | 100.3 | 100.0 | 100.2 | 100.3 | 99.5  | 99.6  | 94.9  | 149.2 |
| 31500 | 85.1  | 90.9  | 92.7  | 95.2  | 95.0  | 96.3  | 95.8  | 95.1  | 95.9  | 96.4  | 95.9  | 95.2  | 88.7  | 148.0 |
| 40000 | 82.8  | 88.2  | 91.2  | 92.4  | 93.7  | 94.3  | 93.7  | 93.3  | 94.3  | 95.7  | 94.3  | 92.4  | 85.3  | 150.1 |
| 50000 | 79.7  | 86.2  | 89.3  | 90.1  | 91.5  | 92.0  | 91.0  | 90.8  | 92.9  | 95.8  | 93.0  | 90.4  | 82.9  | 152.8 |
| 63000 | 77.0  | 83.6  | 87.6  | 87.6  | 89.7  | 89.9  | 88.6  | 89.6  | 91.8  | 95.2  | 93.3  | 89.4  | 81.3  | 156.9 |
| 80000 | 71.9  | 81.3  | 85.9  | 85.2  | 87.3  | 87.6  | 85.5  | 86.3  | 90.6  | 93.8  | 92.7  | 86.6  | 76.1  | 161.9 |

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GASPL 108.1 111.6 113.0 113.5 113.5 114.0 114.9 116.5 118.7 121.3 123.4 125.9 125.8 165.9  
PNL 119.5 122.8 123.3 123.2 123.4 124.5 126.5 129.1 131.2 133.4 134.7 136.3 135.4  
PNLT 119.5 123.6 123.3 123.2 123.4 124.5 127.5 129.1 131.2 133.4 134.7 136.3 135.4  
DBA 106.4 109.7 110.6 110.5 110.5 111.2 113.0 115.5 118.0 120.4 121.8 124.2 123.8

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH224 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 23.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = APC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1660.2 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V16 = 2447.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0417 TAPE = X0417C TEST PT NO = 0417 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0417 X0417F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 83.1  | 81.1  | 81.6  | 82.5  | 81.1  | 81.2  | 86.4  | 86.1  | 85.7  | 89.3  | 89.7  | 92.4  | 127.6 |
| 63    | 91.7  | 91.0  | 85.2  | 88.8  | 89.9  | 89.0  | 88.4  | 91.8  | 91.5  | 89.0  | 91.9  | 91.1  | 95.3  | 132.5 |
| 80    | 88.9  | 92.7  | 89.5  | 90.8  | 90.6  | 92.5  | 93.4  | 92.3  | 93.7  | 93.6  | 94.9  | 97.6  | 100.3 | 135.5 |
| 100   | 89.5  | 95.3  | 90.8  | 92.3  | 93.4  | 93.3  | 93.9  | 95.8  | 94.0  | 96.8  | 99.0  | 102.2 | 105.1 | 138.6 |
| 125   | 85.7  | 88.9  | 91.2  | 92.5  | 93.8  | 94.5  | 95.1  | 96.0  | 95.5  | 98.5  | 103.7 | 107.1 | 108.5 | 141.4 |
| 160   | 86.4  | 84.2  | 89.5  | 88.5  | 89.6  | 90.0  | 96.4  | 92.3  | 93.7  | 99.0  | 104.2 | 107.6 | 110.5 | 142.0 |
| 200   | 87.1  | 86.1  | 87.9  | 88.7  | 90.8  | 92.9  | 95.3  | 95.2  | 98.4  | 100.2 | 105.3 | 109.5 | 112.4 | 143.8 |
| 250   | 86.8  | 90.1  | 90.3  | 91.1  | 91.2  | 92.6  | 95.0  | 97.9  | 99.3  | 105.4 | 110.8 | 113.5 | 114.1 | 147.1 |
| 315   | 86.9  | 89.4  | 89.2  | 90.7  | 93.1  | 94.9  | 97.8  | 97.5  | 100.9 | 106.7 | 111.4 | 115.1 | 115.2 | 148.3 |
| 400   | 87.2  | 89.8  | 90.8  | 91.1  | 92.9  | 93.3  | 103.4 | 98.6  | 101.5 | 108.3 | 113.0 | 115.4 | 114.8 | 149.0 |
| 500   | 88.2  | 90.0  | 90.8  | 92.1  | 92.9  | 94.3  | 97.2  | 98.6  | 102.8 | 108.9 | 114.0 | 116.4 | 115.6 | 149.8 |
| 630   | 88.2  | 91.0  | 92.5  | 93.5  | 94.6  | 96.0  | 96.6  | 99.8  | 102.7 | 109.8 | 113.2 | 116.1 | 116.5 | 149.8 |
| 800   | 90.9  | 92.0  | 93.5  | 94.3  | 95.1  | 96.2  | 98.1  | 101.0 | 104.3 | 109.6 | 112.7 | 115.9 | 115.8 | 149.5 |
| 1000  | 94.7  | 94.7  | 95.8  | 95.0  | 96.4  | 97.0  | 98.9  | 101.8 | 105.0 | 108.8 | 110.7 | 114.9 | 115.3 | 148.7 |
| 1250  | 93.8  | 95.6  | 97.3  | 98.2  | 98.0  | 99.1  | 100.5 | 101.9 | 105.3 | 108.9 | 109.8 | 113.5 | 113.7 | 148.0 |
| 1600  | 92.0  | 94.7  | 95.6  | 96.7  | 98.0  | 98.9  | 100.4 | 103.0 | 105.9 | 107.9 | 109.3 | 112.0 | 113.2 | 147.4 |
| 2000  | 94.0  | 94.9  | 96.1  | 96.2  | 97.6  | 98.4  | 100.7 | 103.0 | 105.9 | 107.9 | 107.9 | 111.5 | 110.5 | 146.6 |
| 2500  | 93.3  | 96.3  | 97.1  | 97.6  | 98.7  | 99.6  | 101.3 | 104.9 | 107.2 | 108.8 | 107.3 | 110.6 | 108.6 | 146.8 |
| 3150  | 93.4  | 96.2  | 97.0  | 97.2  | 98.1  | 99.6  | 102.0 | 104.0 | 106.3 | 108.4 | 108.4 | 109.3 | 107.3 | 146.4 |
| 4000  | 92.6  | 95.2  | 97.1  | 97.5  | 98.7  | 100.2 | 102.1 | 105.6 | 107.0 | 108.4 | 108.2 | 109.0 | 106.5 | 146.6 |
| 5000  | 95.1  | 97.3  | 99.2  | 98.8  | 98.9  | 100.8 | 103.0 | 105.8 | 108.3 | 109.4 | 110.2 | 109.5 | 106.5 | 147.8 |
| 6300  | 97.5  | 101.3 | 100.8 | 100.7 | 100.5 | 101.2 | 103.5 | 105.9 | 108.2 | 109.1 | 109.6 | 109.7 | 106.4 | 148.2 |
| 8000  | 100.3 | 104.9 | 104.7 | 102.7 | 101.6 | 101.9 | 102.9 | 105.7 | 108.2 | 108.7 | 109.2 | 108.8 | 105.9 | 148.8 |
| 10000 | 99.0  | 104.2 | 106.7 | 106.8 | 105.0 | 103.8 | 103.3 | 104.9 | 106.3 | 108.4 | 107.7 | 107.6 | 105.2 | 149.4 |
| 12500 | 97.1  | 100.2 | 104.0 | 106.0 | 105.6 | 105.4 | 103.2 | 104.1 | 105.4 | 106.0 | 105.8 | 105.9 | 103.4 | 149.1 |
| 16000 | 95.6  | 99.4  | 100.9 | 103.0 | 104.1 | 104.3 | 102.9 | 103.0 | 103.8 | 103.5 | 103.8 | 103.6 | 101.2 | 148.7 |
| 20000 | 93.7  | 96.8  | 99.2  | 100.8 | 101.1 | 102.6 | 102.2 | 100.8 | 101.3 | 101.1 | 101.8 | 101.6 | 99.0  | 148.4 |
| 25000 | 91.1  | 94.9  | 97.7  | 98.9  | 99.8  | 100.7 | 100.3 | 100.0 | 100.2 | 100.3 | 99.5  | 99.6  | 94.9  | 149.2 |
| 31500 | 85.1  | 90.9  | 92.7  | 95.2  | 95.0  | 96.3  | 95.8  | 95.1  | 95.9  | 96.4  | 95.9  | 95.2  | 88.7  | 148.0 |
| 40000 | 82.8  | 88.2  | 91.2  | 92.4  | 93.7  | 94.3  | 93.7  | 93.3  | 94.3  | 95.7  | 94.3  | 92.4  | 85.3  | 150.1 |
| 50000 | 79.7  | 86.2  | 89.3  | 90.1  | 91.3  | 92.0  | 91.0  | 90.8  | 92.9  | 95.8  | 93.0  | 90.4  | 82.9  | 152.8 |
| 63000 | 77.0  | 83.6  | 87.6  | 87.6  | 89.7  | 89.9  | 88.6  | 89.6  | 91.8  | 95.2  | 93.3  | 89.4  | 81.3  | 156.9 |
| 80000 | 71.9  | 81.3  | 85.9  | 85.2  | 87.3  | 87.6  | 85.5  | 86.3  | 90.6  | 93.8  | 92.7  | 86.6  | 76.1  | 161.9 |

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OASPL 108.1 111.6 113.0 113.5 113.5 114.0 114.9 116.5 118.7 121.3 123.4 125.9 125.8 165.9  
 PNL 119.5 122.8 123.3 123.2 123.4 124.5 126.5 129.1 131.2 133.4 134.7 136.3 135.4  
 PNLT 119.5 123.6 123.3 123.2 123.4 124.5 127.5 129.1 131.2 133.4 134.7 136.3 135.4  
 DBA 193.3 202.1 206.6 206.0 208.1 208.4 206.5 207.3 211.2 214.4 213.2 207.5 197.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH224 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1660.2 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2447.1 FPS AE18 = 20.4 SQ IN

RUMPT = 82F-ZER-0417 TAPE = X0417F TEST PT NO = 0417 NC = AE058 CORR FAM SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0417 X04171

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 65.4 | 69.5 | 71.5  | 72.5  | 74.8  | 75.3  | 85.3  | 80.0  | 82.3  | 88.0  | 91.1  | 91.4  | 87.4 | 166.6 |
| 63    | 66.4 | 69.7 | 71.5  | 73.5  | 74.8  | 76.3  | 79.1  | 80.0  | 83.5  | 88.5  | 92.1  | 92.4  | 88.2 | 167.4 |
| 80    | 66.2 | 70.6 | 73.2  | 74.9  | 76.4  | 77.9  | 78.4  | 81.2  | 83.4  | 89.4  | 91.3  | 92.0  | 89.0 | 167.4 |
| 100   | 68.9 | 71.5 | 74.2  | 75.7  | 76.9  | 78.2  | 79.9  | 82.4  | 84.9  | 89.1  | 90.7  | 91.6  | 88.1 | 167.1 |
| 125   | 72.6 | 74.2 | 76.3  | 76.3  | 78.1  | 78.8  | 80.6  | 83.1  | 85.6  | 88.3  | 88.6  | 90.5  | 87.4 | 166.3 |
| 160   | 71.5 | 75.9 | 77.8  | 79.4  | 79.6  | 80.8  | 82.1  | 83.0  | 85.8  | 88.2  | 87.5  | 88.8  | 85.4 | 165.6 |
| 200   | 69.5 | 73.8 | 75.9  | 77.8  | 79.4  | 80.4  | 81.9  | 84.0  | 86.1  | 87.0  | 86.8  | 87.0  | 84.5 | 165.0 |
| 250   | 71.1 | 73.8 | 76.1  | 77.0  | 78.8  | 79.8  | 81.9  | 83.8  | 85.9  | 86.7  | 85.0  | 86.1  | 81.1 | 164.1 |
| 315   | 70.0 | 74.8 | 76.8  | 78.1  | 79.7  | 80.7  | 82.2  | 85.4  | 87.0  | 87.3  | 84.0  | 84.7  | 78.4 | 164.4 |
| 400   | 69.6 | 74.3 | 76.3  | 77.4  | 78.7  | 80.5  | 82.7  | 84.2  | 85.7  | 86.5  | 84.6  | 82.7  | 76.1 | 164.0 |
| 500   | 68.3 | 72.9 | 76.1  | 77.4  | 79.1  | 80.7  | 82.4  | 85.5  | 86.0  | 86.1  | 83.9  | 81.7  | 74.3 | 164.2 |
| 630   | 70.3 | 74.6 | 77.9  | 78.4  | 79.0  | 81.1  | 83.1  | 85.4  | 87.0  | 86.7  | 85.4  | 81.6  | 73.2 | 165.4 |
| 800   | 72.2 | 78.2 | 79.2  | 80.0  | 80.4  | 81.3  | 83.4  | 85.3  | 86.6  | 86.0  | 84.4  | 81.0  | 72.0 | 165.8 |
| 1000  | 74.6 | 81.5 | 82.9  | 81.9  | 81.3  | 81.8  | 82.6  | 84.9  | 86.3  | 85.3  | 83.5  | 79.4  | 70.3 | 166.4 |
| 1250  | 72.8 | 80.5 | 84.7  | 85.8  | 84.6  | 83.5  | 82.8  | 83.9  | 84.3  | 84.7  | 81.4  | 77.5  | 68.2 | 167.0 |
| 1600  | 70.0 | 75.9 | 81.5  | 84.7  | 84.9  | 84.9  | 82.5  | 82.7  | 82.9  | 81.7  | 78.7  | 74.4  | 64.0 | 166.7 |
| 2000  | 67.5 | 74.5 | 78.0  | 81.4  | 83.2  | 83.7  | 82.0  | 81.4  | 80.9  | 78.6  | 75.7  | 70.5  | 58.8 | 166.3 |
| 2500  | 63.9 | 70.7 | 75.4  | 78.5  | 79.7  | 81.5  | 80.8  | 78.5  | 77.6  | 75.0  | 71.9  | 65.7  | 51.7 | 166.0 |
| 3150  | 57.9 | 66.4 | 72.1  | 75.1  | 77.0  | 78.2  | 77.5  | 76.3  | 74.6  | 71.7  | 66.3  | 58.7  | 39.2 | 166.8 |
| 4000  | 45.6 | 57.6 | 63.2  | 68.1  | 69.2  | 71.0  | 70.1  | 68.1  | 66.5  | 63.1  | 56.5  | 45.4  | 18.6 | 165.6 |
| 5000  | 33.6 | 47.4 | 55.6  | 59.9  | 62.9  | 64.1  | 62.9  | 60.8  | 58.6  | 54.9  | 45.1  | 28.9  |      | 167.7 |
| 6300  | 12.7 | 31.1 | 41.5  | 46.8  | 50.7  | 52.0  | 50.1  | 47.5  | 45.2  | 40.7  | 26.0  | 2.8   |      | 170.4 |
| 8000  |      | 3.7  | 18.5  | 25.1  | 30.8  | 32.0  | 29.6  | 27.1  | 22.7  | 15.3  |       |       |      | 174.5 |
| 10000 |      |      |       |       | 1.4   | 3.5   |       |       |       |       |       |       |      | 179.5 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 82.9 | 86.2 | 91.1  | 92.5  | 93.0  | 93.7  | 94.8  | 96.1  | 97.6  | 99.3  | 99.7  | 100.0 | 96.2 | 183.3 |
| PNL   | 89.8 | 96.0 | 100.0 | 102.4 | 103.2 | 104.0 | 104.0 | 104.0 | 104.5 | 104.4 | 102.7 | 101.2 | 95.7 |       |
| PNLT  | 89.8 | 96.6 | 100.0 | 102.4 | 103.8 | 104.0 | 104.0 | 104.0 | 105.0 | 105.0 | 102.7 | 102.2 | 95.7 |       |
| DBA   | 80.3 | 86.9 | 90.1  | 91.8  | 92.0  | 92.4  | 92.1  | 93.2  | 94.0  | 93.6  | 91.6  | 89.0  | 82.5 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.583      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH224      TEST DATE = 08-16-82      LOCAT = C41 ANECH CH      CONFIG = 4      MODEL = AX      FLTVEL = 0. FPS  
 IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 83.00      PAMB HG = 29.45      RELHUM = 65.9 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =  
 FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1660.2 FPS      AE8 = 4.0 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2447.1 FPS      AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0417      TAPE = X04171      TEST PT NO = 0417      NC = AE058      CORR FAN SPEED =      RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0419 X0419C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.8 | 85.1  | 82.8  | 84.9  | 87.5  | 85.3  | 85.7  | 86.4  | 88.3  | 88.2  | 95.3  | 95.5  | 96.4  | 131.6 |
| 63    | 91.2 | 91.7  | 87.5  | 90.5  | 94.1  | 92.2  | 92.4  | 92.3  | 92.7  | 90.3  | 98.9  | 98.6  | 100.0 | 136.0 |
| 80    | 90.9 | 94.7  | 91.2  | 93.3  | 92.9  | 94.5  | 96.1  | 94.3  | 95.5  | 95.3  | 97.4  | 99.9  | 102.5 | 137.7 |
| 100   | 91.7 | 97.8  | 93.0  | 95.3  | 96.4  | 96.3  | 97.2  | 98.6  | 96.3  | 98.6  | 100.7 | 104.7 | 107.6 | 141.1 |
| 125   | 87.7 | 90.7  | 93.7  | 95.2  | 96.8  | 97.5  | 96.8  | 98.2  | 97.5  | 100.8 | 106.2 | 109.6 | 111.0 | 143.9 |
| 160   | 88.2 | 86.5  | 91.5  | 91.3  | 92.1  | 92.7  | 99.1  | 95.3  | 96.5  | 101.5 | 107.4 | 110.1 | 113.3 | 144.8 |
| 200   | 89.8 | 88.1  | 89.9  | 91.7  | 93.5  | 95.6  | 97.0  | 97.2  | 100.9 | 102.4 | 107.6 | 112.3 | 114.9 | 146.3 |
| 250   | 88.5 | 92.1  | 92.1  | 93.6  | 93.5  | 94.6  | 97.0  | 100.1 | 101.3 | 107.9 | 113.3 | 116.5 | 117.1 | 149.9 |
| 315   | 89.1 | 91.2  | 91.4  | 93.5  | 94.8  | 96.7  | 99.6  | 99.5  | 103.4 | 110.2 | 114.4 | 117.6 | 117.7 | 151.0 |
| 400   | 89.5 | 92.0  | 93.0  | 93.1  | 95.2  | 95.8  | 105.4 | 100.3 | 104.5 | 112.3 | 116.5 | 118.4 | 117.3 | 152.1 |
| 500   | 90.7 | 92.3  | 93.3  | 95.1  | 95.2  | 96.8  | 98.9  | 101.3 | 105.8 | 113.4 | 117.5 | 118.9 | 118.1 | 152.8 |
| 630   | 90.9 | 92.7  | 94.7  | 95.5  | 96.4  | 98.2  | 98.6  | 102.0 | 106.6 | 114.0 | 117.7 | 119.6 | 118.8 | 153.3 |
| 800   | 93.9 | 94.7  | 96.0  | 96.5  | 97.1  | 98.5  | 100.1 | 104.0 | 107.5 | 113.8 | 118.0 | 119.9 | 118.5 | 153.5 |
| 1000  | 97.4 | 98.2  | 98.8  | 97.8  | 98.6  | 99.7  | 101.1 | 104.0 | 108.0 | 112.8 | 117.0 | 120.1 | 118.3 | 153.3 |
| 1250  | 97.8 | 100.8 | 101.3 | 101.7 | 101.2 | 102.1 | 102.7 | 104.9 | 108.6 | 112.7 | 116.5 | 119.0 | 117.2 | 152.7 |
| 1600  | 96.5 | 97.9  | 98.4  | 99.5  | 100.2 | 101.9 | 102.9 | 105.7 | 108.9 | 111.9 | 117.1 | 118.2 | 115.5 | 152.3 |
| 2000  | 99.3 | 98.7  | 99.4  | 99.2  | 99.6  | 101.2 | 103.4 | 105.7 | 108.9 | 111.6 | 115.6 | 116.2 | 112.2 | 151.0 |
| 2500  | 99.0 | 100.5 | 100.6 | 100.3 | 101.0 | 101.6 | 103.3 | 107.1 | 110.0 | 112.5 | 115.3 | 113.9 | 109.9 | 150.7 |
| 3150  | 97.6 | 99.7  | 100.2 | 101.2 | 101.3 | 102.6 | 104.5 | 106.5 | 109.1 | 111.6 | 114.4 | 111.8 | 108.1 | 149.9 |
| 4000  | 96.8 | 99.0  | 100.3 | 101.0 | 101.5 | 102.2 | 104.1 | 107.4 | 109.7 | 111.2 | 112.4 | 110.0 | 107.0 | 149.2 |
| 5000  | 97.6 | 101.0 | 102.4 | 101.8 | 101.6 | 102.8 | 104.5 | 107.5 | 110.8 | 111.4 | 112.5 | 109.5 | 106.0 | 149.7 |
| 6300  | 97.5 | 102.0 | 103.3 | 103.4 | 103.3 | 102.7 | 104.8 | 107.7 | 110.2 | 110.8 | 111.4 | 108.7 | 105.2 | 149.6 |
| 8000  | 97.3 | 102.9 | 104.2 | 104.4 | 104.1 | 104.2 | 104.4 | 107.2 | 109.7 | 110.4 | 109.0 | 107.3 | 104.1 | 149.5 |
| 10000 | 98.0 | 103.2 | 104.7 | 106.1 | 106.0 | 106.5 | 105.3 | 106.4 | 108.6 | 109.7 | 108.4 | 106.9 | 103.9 | 150.1 |
| 12500 | 97.9 | 101.2 | 104.3 | 105.5 | 105.4 | 106.6 | 104.9 | 105.8 | 107.1 | 107.0 | 106.0 | 105.6 | 102.4 | 149.8 |
| 16000 | 95.6 | 100.4 | 101.4 | 104.0 | 104.3 | 104.6 | 104.4 | 104.5 | 105.5 | 104.3 | 104.8 | 103.6 | 99.7  | 149.6 |
| 20000 | 93.7 | 97.5  | 99.4  | 101.8 | 101.8 | 103.1 | 102.7 | 101.8 | 102.8 | 102.1 | 102.8 | 101.3 | 98.0  | 149.1 |
| 25000 | 91.3 | 95.9  | 98.0  | 99.6  | 100.6 | 101.7 | 101.3 | 101.3 | 102.0 | 101.5 | 100.3 | 99.1  | 93.9  | 150.1 |
| 31500 | 85.6 | 91.2  | 92.9  | 95.7  | 95.7  | 97.8  | 96.3  | 96.4  | 97.4  | 97.6  | 96.9  | 94.5  | 88.0  | 148.9 |
| 40000 | 82.6 | 89.0  | 91.5  | 92.7  | 94.5  | 95.1  | 94.7  | 94.8  | 96.3  | 96.7  | 95.5  | 91.9  | 85.1  | 151.1 |
| 50000 | 80.2 | 86.4  | 89.3  | 90.8  | 92.5  | 93.8  | 92.2  | 92.5  | 95.2  | 97.0  | 93.7  | 89.9  | 80.6  | 154.0 |
| 63000 | 77.0 | 84.1  | 87.3  | 88.1  | 90.7  | 91.9  | 89.8  | 91.6  | 94.0  | 97.2  | 94.1  | 87.9  | 78.6  | 158.3 |
| 80000 | 72.7 | 81.8  | 85.4  | 86.2  | 88.3  | 90.6  | 87.8  | 88.6  | 92.6  | 96.8  | 94.2  | 86.1  | 72.1  | 163.9 |

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OASPL 109.7 112.8 113.9 114.8 115.0 115.9 116.7 118.5 121.2 124.5 127.8 129.3 128.2 168.1  
PNI 122.1 124.4 125.4 125.7 126.0 126.9 128.7 131.1 133.8 136.5 139.4 139.3 137.3  
PNLT 122.1 125.2 125.4 126.8 126.0 126.9 129.7 131.1 133.8 136.5 139.4 139.3 137.3  
DBA 108.9 111.4 112.4 112.7 112.8 113.6 115.1 117.7 120.7 123.7 127.0 128.1 126.2

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VECTEL = ADH225 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1662.6 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2630.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-0419 TAPE = X0419C TEST PT NO = 0419 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0419 X0419F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.8  | 85.1  | 82.8  | 84.9  | 87.5  | 85.3  | 85.7  | 86.4  | 88.3  | 88.2  | 95.3  | 95.5  | 96.4  | 131.6 |
| 63    | 91.2  | 91.7  | 87.5  | 90.5  | 94.1  | 92.2  | 92.4  | 92.3  | 92.7  | 90.3  | 98.9  | 98.6  | 100.0 | 136.0 |
| 80    | 90.9  | 94.7  | 91.2  | 93.3  | 92.9  | 94.5  | 96.1  | 94.3  | 95.5  | 95.3  | 97.4  | 99.9  | 102.5 | 137.7 |
| 100   | 91.7  | 97.8  | 93.0  | 95.1  | 96.4  | 96.3  | 97.2  | 98.6  | 96.3  | 98.6  | 100.7 | 104.7 | 107.6 | 141.1 |
| 125   | 87.7  | 90.7  | 93.7  | 95.2  | 96.8  | 97.5  | 96.8  | 98.2  | 97.5  | 100.8 | 106.2 | 109.6 | 111.0 | 143.9 |
| 160   | 88.2  | 86.5  | 91.5  | 91.3  | 92.1  | 92.7  | 99.1  | 95.3  | 96.5  | 101.5 | 107.4 | 110.1 | 113.3 | 144.8 |
| 200   | 89.3  | 88.1  | 89.9  | 91.7  | 93.5  | 95.6  | 97.0  | 97.2  | 100.9 | 102.4 | 107.6 | 112.3 | 114.9 | 146.3 |
| 250   | 88.5  | 92.1  | 92.1  | 93.6  | 93.5  | 94.6  | 97.0  | 100.1 | 101.3 | 107.9 | 113.3 | 116.5 | 117.1 | 149.9 |
| 315   | 89.1  | 91.2  | 91.4  | 93.5  | 94.8  | 96.7  | 99.6  | 99.5  | 103.4 | 110.2 | 114.4 | 117.6 | 117.7 | 151.0 |
| 400   | 89.5  | 92.0  | 93.0  | 93.1  | 95.2  | 95.8  | 105.4 | 100.3 | 104.5 | 112.3 | 116.5 | 118.4 | 117.3 | 152.1 |
| 500   | 90.7  | 92.3  | 93.3  | 95.1  | 95.2  | 96.8  | 98.9  | 101.3 | 105.8 | 113.4 | 117.5 | 118.9 | 118.1 | 152.8 |
| 630   | 90.9  | 92.7  | 94.7  | 95.5  | 96.4  | 98.2  | 98.6  | 102.0 | 106.0 | 114.0 | 117.7 | 119.6 | 118.8 | 153.3 |
| 800   | 93.9  | 94.7  | 96.0  | 96.5  | 97.1  | 98.5  | 100.1 | 104.0 | 107.5 | 113.8 | 118.0 | 119.9 | 118.5 | 153.5 |
| 1000  | 97.4  | 98.2  | 98.8  | 97.8  | 98.6  | 99.7  | 101.1 | 104.0 | 108.0 | 112.8 | 117.0 | 120.1 | 118.3 | 153.3 |
| 1250  | 97.8  | 100.8 | 101.3 | 101.7 | 101.2 | 102.1 | 102.7 | 104.9 | 108.6 | 112.7 | 116.5 | 119.0 | 117.2 | 152.7 |
| 1600  | 96.5  | 97.9  | 98.4  | 99.5  | 100.2 | 101.9 | 102.9 | 105.7 | 108.9 | 111.9 | 117.1 | 118.2 | 115.5 | 152.3 |
| 2000  | 99.3  | 98.7  | 99.4  | 99.2  | 99.6  | 101.2 | 103.4 | 105.7 | 108.9 | 111.6 | 115.6 | 116.2 | 112.2 | 151.0 |
| 2500  | 99.0  | 100.5 | 100.6 | 100.3 | 101.0 | 101.6 | 103.3 | 107.1 | 110.0 | 112.5 | 115.3 | 113.9 | 109.9 | 150.7 |
| 3150  | 97.6  | 99.7  | 100.2 | 101.2 | 101.3 | 102.6 | 104.5 | 106.5 | 109.1 | 111.6 | 114.4 | 111.8 | 108.1 | 149.9 |
| 4000  | 96.8  | 99.0  | 100.3 | 101.0 | 101.5 | 102.2 | 104.1 | 107.4 | 109.7 | 111.2 | 112.4 | 110.0 | 107.0 | 149.2 |
| 5000  | 97.6  | 101.0 | 102.4 | 101.8 | 101.6 | 102.8 | 104.5 | 107.5 | 110.8 | 111.4 | 112.5 | 109.5 | 106.0 | 149.7 |
| 6300  | 97.5  | 102.0 | 103.3 | 103.4 | 103.3 | 102.7 | 104.8 | 107.7 | 110.2 | 110.8 | 111.4 | 108.7 | 105.2 | 149.6 |
| 8000  | 97.3  | 102.9 | 104.2 | 104.4 | 104.1 | 104.2 | 104.4 | 107.2 | 109.7 | 110.4 | 109.0 | 107.3 | 104.1 | 149.5 |
| 10000 | 98.0  | 103.2 | 104.7 | 106.1 | 106.0 | 106.5 | 105.3 | 106.4 | 108.6 | 109.7 | 108.4 | 106.9 | 103.9 | 150.1 |
| 12500 | 97.9  | 101.2 | 104.3 | 105.5 | 105.4 | 106.6 | 104.9 | 105.8 | 107.1 | 107.0 | 106.0 | 105.6 | 102.4 | 149.8 |
| 16000 | 95.6  | 100.4 | 101.4 | 104.0 | 104.3 | 104.6 | 104.4 | 104.5 | 105.5 | 104.3 | 104.8 | 103.6 | 99.7  | 149.6 |
| 20000 | 93.7  | 97.5  | 99.4  | 101.8 | 101.8 | 103.1 | 102.7 | 101.8 | 102.8 | 102.1 | 102.8 | 101.3 | 98.0  | 149.1 |
| 25000 | 91.3  | 95.9  | 98.0  | 99.6  | 100.6 | 101.7 | 101.3 | 101.3 | 102.0 | 101.5 | 100.3 | 99.1  | 93.9  | 150.1 |
| 31500 | 85.6  | 91.2  | 92.9  | 95.7  | 95.7  | 97.8  | 96.3  | 96.4  | 97.4  | 97.6  | 96.9  | 94.5  | 88.0  | 148.9 |
| 40000 | 82.6  | 89.0  | 91.5  | 92.7  | 94.5  | 95.1  | 94.7  | 94.8  | 96.3  | 96.7  | 95.5  | 91.9  | 85.1  | 151.1 |
| 50000 | 80.2  | 86.4  | 89.3  | 90.8  | 92.5  | 93.8  | 92.2  | 92.5  | 95.2  | 97.0  | 93.7  | 89.9  | 80.6  | 154.0 |
| 63000 | 77.0  | 84.1  | 87.3  | 88.1  | 90.7  | 91.9  | 89.8  | 91.6  | 94.0  | 97.2  | 94.1  | 87.9  | 78.6  | 158.3 |
| 80000 | 72.7  | 81.8  | 85.4  | 86.2  | 88.3  | 90.6  | 87.8  | 88.6  | 92.6  | 96.8  | 94.2  | 86.1  | 72.1  | 163.9 |
| OASPL | 109.7 | 112.8 | 113.9 | 114.8 | 115.0 | 115.9 | 116.7 | 118.5 | 121.2 | 124.5 | 127.8 | 129.3 | 128.2 | 168.1 |
| PNL   | 122.1 | 124.4 | 125.4 | 125.7 | 126.0 | 126.9 | 128.7 | 131.1 | 133.8 | 136.5 | 139.4 | 139.3 | 137.3 |       |
| PNLT  | 122.1 | 125.2 | 125.4 | 126.8 | 126.0 | 126.9 | 129.7 | 131.1 | 133.8 | 136.5 | 139.4 | 139.3 | 137.3 |       |
| DBA   | 193.9 | 202.6 | 206.1 | 207.0 | 209.1 | 211.3 | 208.5 | 209.5 | 213.2 | 217.3 | 214.6 | 206.8 | 194.0 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH225 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.45 RELHUM = 65.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1662.6 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2630.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-0419 TAPE = X0419F TEST PT NO = 0419 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0419 X04191

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                                        |          |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|----------------------------------------------------------------------------------------------------------------------------------------|----------|------|-------|-------|-----------|------------|-------|-------|----------|----------------|-------|-------|--------|---------|-------|----------|-------------|--|--------|------------|------|--|---------|--------------|--|------|------|--------------|--|
|                                                                                                                                        | 40.      | 50.  | 60.   | 70.   | 80.       | 90.        | 100.  | 110.  | 120.     | 130.           | 140.  | 150.  | 160.   | PWL     |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| FREQ                                                                                                                                   | 50       | 67.6 | 71.7  | 73.8  | 74.5      | 77.0       | 77.8  | 87.3  | 81.8     | 85.3           | 92.0  | 94.6  | 94.4   | 89.9    | 169.7 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 63       | 68.9 | 71.9  | 74.0  | 76.5      | 77.1       | 78.8  | 80.8  | 82.8     | 86.5           | 93.0  | 95.6  | 94.9   | 90.7    | 170.4 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 80       | 69.0 | 72.3  | 75.4  | 76.9      | 78.2       | 80.2  | 80.4  | 83.4     | 86.7           | 93.7  | 95.8  | 95.5   | 91.2    | 170.9 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 100      | 71.9 | 74.3  | 76.7  | 77.9      | 78.9       | 80.4  | 81.9  | 85.4     | 88.2           | 93.4  | 96.0  | 95.6   | 90.8    | 171.1 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 125      | 75.3 | 77.7  | 79.3  | 79.1      | 80.3       | 81.6  | 82.8  | 85.3     | 88.6           | 92.3  | 94.8  | 95.7   | 90.4    | 170.9 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 160      | 75.5 | 80.1  | 81.8  | 82.9      | 82.8       | 83.8  | 84.3  | 86.0     | 89.0           | 92.0  | 94.2  | 94.3   | 88.9    | 170.3 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 200      | 74.0 | 77.0  | 78.6  | 80.5      | 81.7       | 83.4  | 84.4  | 86.8     | 89.1           | 91.0  | 94.5  | 93.3   | 86.7    | 169.9 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 250      | 76.4 | 77.5  | 79.4  | 80.0      | 80.8       | 82.6  | 84.7  | 86.5     | 88.9           | 90.5  | 92.8  | 90.8   | 82.8    | 168.6 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 315      | 75.7 | 79.0  | 80.3  | 80.8      | 81.9       | 82.7  | 84.2  | 87.6     | 89.7           | 91.0  | 92.0  | 87.9   | 79.6    | 168.3 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 400      | 73.8 | 77.8  | 79.6  | 81.4      | 82.0       | 83.5  | 85.2  | 86.7     | 88.4           | 89.7  | 90.6  | 85.2   | 76.9    | 167.5 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 500      | 72.5 | 76.7  | 79.4  | 80.9      | 81.3       | 82.7  | 84.4  | 87.3     | 88.8           | 88.9  | 88.2  | 82.7   | 74.8    | 166.8 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 630      | 72.8 | 78.3  | 81.1  | 81.4      | 81.7       | 83.1  | 84.6  | 87.1     | 89.5           | 88.7  | 87.7  | 81.6   | 72.7    | 167.3 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 800      | 72.2 | 78.9  | 81.7  | 82.8      | 83.1       | 82.8  | 84.6  | 87.0     | 88.6           | 87.7  | 86.1  | 80.0   | 70.7    | 167.2 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 1000     | 71.6 | 79.5  | 82.4  | 83.6      | 83.8       | 84.1  | 84.1  | 86.4     | 87.8           | 87.1  | 83.3  | 77.9   | 68.6    | 167.1 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 1250     | 71.6 | 79.5  | 82.7  | 85.1      | 85.6       | 86.3  | 84.8  | 85.4     | 86.5           | 85.9  | 82.2  | 76.8   | 66.9    | 167.7 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 1600     | 70.8 | 76.9  | 81.8  | 84.2      | 84.7       | 86.1  | 84.2  | 84.5     | 84.6           | 82.7  | 79.0  | 74.2   | 63.0    | 167.4 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 2000     | 67.5 | 75.5  | 78.5  | 82.4      | 83.5       | 84.0  | 83.5  | 82.9     | 82.6           | 79.4  | 76.7  | 70.5   | 57.3    | 167.2 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 2500     | 63.9 | 71.4  | 75.7  | 79.5      | 80.4       | 82.0  | 81.3  | 79.5     | 79.1           | 76.0  | 72.9  | 65.4   | 50.7    | 166.7 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 3150     | 58.1 | 67.4  | 72.3  | 75.9      | 77.8       | 79.2  | 78.5  | 77.5     | 76.3           | 73.0  | 67.1  | 58.2   | 38.2    | 167.7 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 4000     | 46.1 | 57.9  | 63.5  | 68.6      | 70.0       | 72.5  | 70.6  | 69.3     | 68.0           | 64.3  | 57.5  | 44.6   | 17.8    | 166.5 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 5000     | 33.3 | 48.1  | 55.8  | 60.2      | 63.7       | 64.9  | 63.9  | 62.3     | 60.6           | 55.9  | 46.3  | 28.4   |         | 168.7 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 6300     | 13.2 | 31.3  | 41.5  | 47.5      | 51.7       | 53.7  | 51.4  | 49.2     | 47.4           | 41.9  | 26.7  | 2.3    |         | 171.6 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 8000     |      | 4.2   | 18.2  | 25.6      | 31.8       | 34.0  | 30.9  | 29.1     | 24.9           | 17.3  |       |        |         | 175.9 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 10000    |      |       |       | 2.4       | 6.5        | 1.9   |       |          |                |       |       |        |         | 181.5 |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 12500    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 16000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 20000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 25000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 31500    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 40000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 50000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 63000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
|                                                                                                                                        | 80000    |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| CASPL                                                                                                                                  | 85.3     | 89.8 | 92.4  | 94.0  | 94.7      | 95.7       | 96.7  | 98.2  | 100.3    | 102.9          | 104.7 | 103.8 | 98.7   | 185.5   |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| PNL                                                                                                                                    | 91.3     | 97.4 | 101.0 | 103.3 | 104.3     | 105.3      | 105.4 | 105.8 | 106.7    | 107.0          | 107.2 | 104.6 | 97.6   |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| PNLT                                                                                                                                   | 91.3     | 98.0 | 101.0 | 103.8 | 104.9     | 105.3      | 105.4 | 105.8 | 107.2    | 107.6          | 107.2 | 105.7 | 97.6   |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| DBA                                                                                                                                    | 80.8     | 87.1 | 90.3  | 92.4  | 93.1      | 94.0       | 93.7  | 94.9  | 96.1     | 95.7           | 95.0  | 91.2  | 83.9   |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.583      FREQ SHIFT = -9 |          |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166                                                                            |          |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |
| VEHICL                                                                                                                                 | = ADH225 |      |       |       | TEST DATE | = 08-16-82 |       |       | LOCAT    | = C41 ANECH CH |       |       | CONFIG | = 4     |       | MODEL    | = AX        |  | FLTVEL | = 0. FPS   |      |  |         |              |  |      |      |              |  |
| IAPLHA                                                                                                                                 | = SB59   |      |       |       | IEGA      | = NO       |       |       | PWL AREA | = FULL SPHERE  |       |       | TAMB F | = 83.00 |       | PAMB HG  | = 29.45     |  | RELHUM | = 65.9 PCT |      |  |         |              |  |      |      |              |  |
| WIND DIR                                                                                                                               |          |      |       |       | DEG       |            |       |       | WIND VEL |                |       |       | MPH    |         |       | EXT DIST | = 2400.0 FT |  |        | EXT CONFIG | = SL |  | MIKE HT |              |  | NBFR |      |              |  |
| FNIN1                                                                                                                                  |          |      |       |       | LBS       | XNL        |       |       |          |                |       |       | RPM    | XNH     |       |          |             |  |        | RPM        | V8   |  |         | = 1662.6 FPS |  |      | AE8  | = 4.0 SQ IN  |  |
| FNRAMB                                                                                                                                 |          |      |       |       | LBS       | XNLR       |       |       |          |                |       |       | RPM    | XNHR    |       |          |             |  |        | RPM        | V18  |  |         | = 2630.7 FPS |  |      | AE18 | = 20.4 SQ IN |  |
| RUNP1 = 82F-ZER-0419      TAPE = X04191      TEST PT NO = 0419      NC = AE058      CORR FAN SPEED =      RPM                          |          |      |       |       |           |            |       |       |          |                |       |       |        |         |       |          |             |  |        |            |      |  |         |              |  |      |      |              |  |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0420 X0420C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.5 | 88.6  | 83.6  | 84.9  | 84.0  | 83.1  | 85.2  | 86.4  | 89.3  | 87.7  | 94.3  | 93.5  | 100.4 | 132.2 |
| 63    | 91.9 | 90.7  | 88.7  | 88.5  | 90.9  | 88.5  | 91.1  | 89.3  | 93.2  | 90.5  | 94.2  | 92.9  | 100.5 | 134.1 |
| 80    | 90.4 | 95.0  | 91.0  | 93.0  | 92.6  | 93.7  | 94.9  | 93.5  | 94.0  | 94.1  | 95.9  | 98.4  | 102.8 | 137.0 |
| 100   | 90.5 | 96.8  | 91.8  | 92.6  | 94.7  | 94.3  | 95.9  | 96.8  | 95.3  | 95.8  | 98.5  | 102.4 | 107.1 | 139.6 |
| 125   | 87.4 | 90.7  | 92.5  | 94.0  | 95.1  | 95.5  | 96.3  | 96.7  | 95.2  | 97.3  | 103.2 | 107.8 | 110.0 | 142.2 |
| 160   | 87.2 | 83.0  | 89.7  | 89.0  | 89.9  | 90.2  | 97.6  | 92.3  | 93.0  | 98.8  | 104.7 | 108.1 | 112.0 | 142.9 |
| 200   | 87.8 | 87.9  | 86.9  | 87.4  | 89.3  | 90.9  | 94.5  | 94.4  | 97.6  | 98.7  | 103.8 | 109.3 | 113.2 | 143.7 |
| 250   | 84.0 | 87.6  | 87.8  | 88.9  | 89.2  | 90.8  | 94.0  | 96.6  | 97.6  | 103.1 | 109.3 | 113.0 | 113.9 | 146.2 |
| 315   | 84.4 | 86.2  | 86.9  | 88.7  | 90.3  | 91.9  | 96.3  | 96.2  | 99.4  | 106.0 | 111.1 | 114.8 | 115.0 | 147.9 |
| 400   | 85.0 | 87.0  | 88.0  | 88.1  | 89.9  | 90.8  | 101.7 | 96.1  | 100.0 | 107.1 | 112.5 | 115.7 | 113.8 | 148.5 |
| 500   | 85.0 | 86.8  | 88.3  | 89.3  | 90.2  | 92.0  | 94.7  | 96.6  | 100.8 | 108.6 | 113.8 | 115.9 | 112.3 | 148.8 |
| 630   | 84.9 | 87.5  | 89.5  | 90.0  | 91.4  | 92.7  | 95.4  | 97.8  | 100.5 | 109.8 | 113.2 | 115.1 | 109.8 | 148.3 |
| 800   | 85.9 | 87.5  | 89.5  | 90.5  | 91.9  | 93.5  | 96.1  | 99.0  | 102.5 | 109.6 | 112.7 | 113.6 | 106.5 | 147.5 |
| 1000  | 88.7 | 89.0  | 90.7  | 91.3  | 92.9  | 94.0  | 96.6  | 99.3  | 103.5 | 108.8 | 111.4 | 111.6 | 102.3 | 146.2 |
| 1250  | 89.5 | 92.6  | 92.8  | 93.0  | 93.7  | 95.3  | 97.7  | 100.1 | 104.3 | 108.9 | 110.0 | 108.2 | 99.5  | 145.2 |
| 1600  | 91.8 | 92.4  | 93.4  | 94.0  | 95.5  | 96.1  | 98.9  | 101.2 | 105.4 | 108.4 | 110.3 | 104.2 | 97.5  | 145.1 |
| 2000  | 94.0 | 94.4  | 94.6  | 94.7  | 95.3  | 96.4  | 99.7  | 101.7 | 105.1 | 108.4 | 108.6 | 101.5 | 95.5  | 144.5 |
| 2500  | 93.3 | 95.0  | 95.3  | 96.8  | 97.2  | 97.8  | 100.5 | 102.9 | 106.2 | 109.3 | 107.8 | 101.1 | 94.6  | 145.1 |
| 3150  | 93.1 | 93.9  | 95.2  | 96.2  | 98.1  | 99.1  | 102.0 | 103.0 | 105.5 | 108.1 | 107.9 | 100.3 | 94.1  | 144.8 |
| 4000  | 94.0 | 94.2  | 95.3  | 96.3  | 97.7  | 98.9  | 102.0 | 104.4 | 106.2 | 107.7 | 106.2 | 100.0 | 93.7  | 144.8 |
| 5000  | 96.8 | 97.3  | 97.4  | 97.6  | 97.6  | 99.1  | 102.7 | 105.3 | 108.7 | 107.9 | 106.9 | 99.7  | 94.2  | 146.0 |
| 6300  | 98.5 | 99.0  | 99.3  | 99.4  | 99.8  | 99.7  | 103.3 | 105.9 | 108.9 | 109.0 | 107.1 | 100.7 | 94.7  | 147.0 |
| 8000  | 98.5 | 100.6 | 101.4 | 101.7 | 100.9 | 101.2 | 103.1 | 105.2 | 108.4 | 109.2 | 107.0 | 99.7  | 94.6  | 147.4 |
| 10000 | 99.3 | 101.5 | 102.7 | 103.8 | 104.0 | 103.5 | 104.5 | 105.7 | 108.6 | 109.6 | 106.9 | 101.9 | 95.4  | 148.9 |
| 12500 | 99.1 | 100.5 | 102.5 | 103.8 | 103.6 | 104.9 | 105.2 | 104.8 | 107.1 | 107.5 | 106.0 | 100.4 | 94.9  | 148.9 |
| 16000 | 95.8 | 98.7  | 100.1 | 102.2 | 103.1 | 103.6 | 105.1 | 104.7 | 105.8 | 105.0 | 104.0 | 98.7  | 92.9  | 149.0 |
| 20000 | 94.2 | 95.6  | 97.4  | 100.0 | 101.1 | 101.6 | 103.4 | 102.3 | 103.6 | 102.6 | 101.3 | 96.8  | 91.0  | 148.6 |
| 25000 | 91.3 | 93.7  | 95.5  | 97.9  | 99.3  | 99.9  | 102.1 | 100.8 | 102.2 | 100.6 | 98.8  | 95.1  | 87.7  | 149.2 |
| 31500 | 84.6 | 88.7  | 90.2  | 93.2  | 93.7  | 95.4  | 97.1  | 95.6  | 97.9  | 96.1  | 93.9  | 89.5  | 81.5  | 147.5 |
| 40000 | 81.3 | 85.7  | 88.0  | 89.6  | 91.4  | 92.6  | 94.1  | 93.2  | 95.3  | 93.7  | 80.5  | 85.4  | 78.3  | 148.8 |
| 50000 | 78.1 | 82.5  | 84.6  | 86.7  | 88.4  | 89.9  | 91.1  | 89.9  | 93.5  | 91.9  | 87.4  | 81.1  | 74.0  | 150.6 |
| 63000 | 74.2 | 79.3  | 82.3  | 82.3  | 85.5  | 86.4  | 87.6  | 88.3  | 91.5  | 91.4  | 86.3  | 77.1  | 68.3  | 153.6 |
| 80000 | 68.3 | 76.9  | 79.9  | 78.3  | 82.1  | 83.0  | 84.4  | 84.4  | 89.6  | 89.0  | 83.5  | 71.3  | 60.3  | 157.7 |

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CASPL 108.1 109.8 110.7 111.8 112.3 112.9 115.1 116.0 118.8 121.3 123.0 123.8 122.4 163.6  
PNL 119.6 120.6 121.1 121.6 122.3 123.1 126.2 128.0 131.1 133.2 133.9 131.7 128.9  
PNLT 119.6 121.3 121.1 122.1 122.3 123.7 127.2 128.0 131.1 133.2 133.9 131.7 128.9  
DBA 106.0 107.2 108.0 108.5 109.0 109.7 112.5 114.5 117.7 120.4 121.4 120.7 116.5

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH231 TEST DATE = 08-17-82 LOCAT = CAT ANECH CH CONFIG = 4 MODEL = AX FLVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 79.00 PAMB HG = 29.50 RELHUM = 71.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1656.7 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2643.9 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-400-0420 TAPE = X0420C TEST PT NO = 0420 NC = AE058 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0420 X0420F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 91.4  | 93.6  | 92.5  | 92.0  | 90.8  | 90.8  | 92.1  | 93.0  | 96.0  | 101.6 | 106.2 | 110.4 | 112.4 | 144.2 |
| 315   | 91.4  | 93.6  | 92.5  | 92.0  | 92.1  | 92.1  | 95.0  | 93.4  | 96.8  | 103.0 | 108.0 | 112.0 | 112.7 | 145.3 |
| 400   | 92.1  | 92.5  | 91.9  | 92.1  | 91.7  | 91.0  | 100.4 | 93.3  | 97.8  | 104.9 | 109.8 | 113.2 | 112.9 | 146.4 |
| 500   | 92.4  | 93.2  | 92.9  | 91.4  | 92.1  | 92.4  | 93.4  | 93.9  | 97.9  | 106.5 | 109.8 | 113.5 | 112.5 | 146.5 |
| 630   | 92.7  | 93.2  | 93.3  | 92.8  | 93.3  | 93.1  | 94.2  | 95.2  | 100.4 | 106.9 | 110.2 | 113.5 | 112.2 | 146.7 |
| 800   | 92.6  | 93.9  | 94.5  | 93.5  | 93.9  | 94.0  | 95.1  | 96.6  | 102.7 | 107.5 | 110.5 | 113.7 | 111.3 | 147.0 |
| 1000  | 93.6  | 93.9  | 94.6  | 94.1  | 95.0  | 94.6  | 96.2  | 97.7  | 104.2 | 108.7 | 110.4 | 111.8 | 110.2 | 146.5 |
| 1250  | 96.4  | 96.4  | 95.9  | 94.9  | 95.9  | 96.1  | 97.5  | 99.0  | 104.9 | 107.9 | 110.5 | 107.9 | 108.6 | 145.7 |
| 1600  | 96.6  | 98.7  | 97.7  | 96.6  | 97.9  | 97.1  | 98.7  | 99.9  | 104.6 | 107.7 | 108.7 | 105.0 | 106.6 | 144.9 |
| 2000  | 99.1  | 98.8  | 98.5  | 97.8  | 97.6  | 97.7  | 99.6  | 100.4 | 105.9 | 108.7 | 107.9 | 104.6 | 105.7 | 145.3 |
| 2500  | 99.6  | 99.5  | 98.9  | 98.0  | 100.1 | 99.4  | 100.7 | 101.8 | 105.8 | 108.2 | 108.6 | 104.5 | 105.8 | 145.6 |
| 3150  | 100.8 | 101.6 | 101.8 | 101.0 | 101.3 | 101.2 | 102.6 | 102.4 | 107.3 | 108.4 | 107.4 | 104.6 | 105.9 | 146.4 |
| 4000  | 100.7 | 100.6 | 100.8 | 100.6 | 101.4 | 101.5 | 103.5 | 104.5 | 109.9 | 108.6 | 108.1 | 104.3 | 106.3 | 147.3 |
| 5000  | 101.6 | 100.9 | 101.1 | 100.9 | 101.5 | 102.1 | 104.6 | 105.7 | 110.1 | 109.8 | 108.3 | 105.1 | 106.7 | 148.1 |
| 6300  | 103.3 | 103.3 | 102.8 | 102.1 | 103.6 | 102.7 | 105.1 | 106.3 | 109.7 | 110.1 | 108.3 | 104.4 | 106.8 | 148.7 |
| 8000  | 104.4 | 104.6 | 104.4 | 103.7 | 104.8 | 104.2 | 105.0 | 105.6 | 110.4 | 111.1 | 108.9 | 107.4 | 108.5 | 150.0 |
| 10000 | 104.9 | 106.5 | 106.6 | 106.0 | 108.0 | 106.5 | 106.6 | 106.3 | 110.0 | 110.1 | 109.3 | 107.2 | 109.2 | 151.3 |
| 12500 | 106.1 | 107.6 | 108.0 | 108.1 | 107.6 | 107.9 | 107.5 | 106.0 | 109.6 | 108.7 | 108.5 | 106.6 | 108.4 | 152.3 |
| 16000 | 105.4 | 106.1 | 107.2 | 107.5 | 107.1 | 106.6 | 107.5 | 106.3 | 108.1 | 107.0 | 106.5 | 105.5 | 107.0 | 152.7 |
| 20000 | 101.8 | 103.9 | 104.4 | 105.6 | 105.1 | 104.6 | 105.9 | 104.0 | 107.2 | 105.5 | 104.5 | 104.5 | 104.7 | 152.6 |
| 25000 | 99.5  | 100.1 | 101.1 | 102.7 | 103.9 | 102.9 | 104.5 | 102.4 | 102.8 | 100.6 | 99.0  | 98.0  | 97.8  | 152.1 |
| 31500 | 98.7  | 99.8  | 100.1 | 101.0 | 98.3  | 98.4  | 99.1  | 96.6  | 100.5 | 98.4  | 95.5  | 93.4  | 93.3  | 151.9 |
| 40000 | 91.1  | 93.9  | 94.0  | 95.4  | 96.0  | 95.6  | 96.0  | 93.9  | 99.2  | 97.0  | 92.8  | 89.5  | 89.4  | 152.4 |
| 50000 | 87.4  | 90.6  | 91.4  | 91.5  | 93.0  | 92.9  | 93.0  | 90.5  | 97.9  | 97.2  | 92.4  | 86.2  | 84.4  | 154.7 |
| 63000 | 83.2  | 86.4  | 87.1  | 87.6  | 90.1  | 89.4  | 89.4  | 88.8  | 97.5  | 96.3  | 91.1  | 81.9  | 77.8  | 158.1 |
| 80000 | 77.9  | 81.7  | 83.2  | 81.7  | 86.7  | 86.0  | 86.2  | 84.9  | 87.7  | 86.5  | 81.3  | 72.0  | 68.0  | 158.3 |
| OASPL | 114.2 | 115.1 | 115.3 | 115.3 | 115.8 | 115.3 | 116.4 | 116.1 | 120.1 | 121.2 | 121.8 | 122.6 | 122.6 | 165.5 |
| PNL   | 124.0 | 124.3 | 124.3 | 123.6 | 124.4 | 124.2 | 126.1 | 126.8 | 131.7 | 132.6 | 132.7 | 131.0 | 132.0 |       |
| PNLT  | 124.0 | 124.3 | 124.3 | 123.6 | 124.4 | 124.2 | 127.1 | 126.8 | 131.7 | 132.6 | 132.7 | 131.0 | 132.0 |       |
| DBA   | 199.5 | 203.1 | 204.5 | 203.5 | 207.8 | 207.1 | 207.3 | 206.0 | 210.8 | 209.7 | 204.5 | 195.7 | 192.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CON//DFSC-4/NAS3-23166

|                 |                      |                        |                  |                 |                   |
|-----------------|----------------------|------------------------|------------------|-----------------|-------------------|
| VEHICL = ADH231 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH   | CONFIG = 4       | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | LEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 79.00   | PAMB HG = 29.50 | RELHUM = 71.6 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FNIN1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1656.7 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 2643.9 FPS | AE18 = 20.4 SQ IN |

RUMPT = 82F-400-0420 TAPE = X0420F TEST PT NO = 0420 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0420 X04201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.2 | 72.2  | 72.6  | 73.6  | 73.6  | 73.1  | 82.2  | 74.8  | 78.6  | 84.6  | 87.9  | 89.1 | 85.5 | 164.0 |
| 63    | 70.5 | 72.9  | 73.6  | 72.9  | 73.9  | 74.4  | 75.3  | 75.4  | 78.6  | 86.2  | 87.9  | 89.4 | 85.1 | 164.1 |
| 80    | 70.7 | 72.8  | 74.0  | 74.2  | 75.2  | 75.1  | 78.0  | 76.6  | 81.1  | 86.5  | 88.2  | 89.4 | 84.6 | 164.3 |
| 100   | 70.6 | 73.4  | 75.1  | 74.9  | 75.7  | 75.9  | 76.9  | 78.0  | 83.3  | 87.1  | 88.5  | 89.5 | 83.6 | 164.6 |
| 125   | 71.5 | 73.4  | 75.1  | 75.4  | 76.7  | 76.5  | 77.9  | 79.0  | 84.8  | 88.1  | 88.3  | 87.4 | 82.2 | 164.1 |
| 160   | 74.0 | 74.7  | 76.3  | 76.1  | 77.5  | 77.9  | 79.1  | 80.1  | 85.4  | 87.2  | 88.2  | 83.3 | 80.3 | 163.3 |
| 200   | 74.0 | 77.8  | 78.0  | 77.6  | 79.3  | 78.7  | 80.1  | 80.9  | 84.9  | 86.8  | 86.2  | 80.1 | 77.8 | 162.5 |
| 250   | 76.2 | 77.6  | 78.5  | 78.6  | 78.9  | 79.1  | 80.8  | 81.2  | 86.0  | 87.6  | 85.0  | 79.2 | 76.3 | 162.9 |
| 315   | 76.3 | 78.0  | 78.6  | 78.6  | 81.1  | 80.5  | 81.7  | 82.3  | 85.5  | 86.6  | 85.3  | 78.5 | 75.6 | 163.2 |
| 400   | 77.0 | 79.7  | 81.1  | 81.2  | 82.0  | 82.0  | 83.3  | 82.6  | 86.6  | 86.4  | 83.6  | 78.0 | 74.7 | 164.0 |
| 500   | 76.4 | 78.3  | 79.8  | 80.5  | 81.8  | 82.0  | 83.9  | 84.4  | 88.9  | 86.3  | 83.9  | 77.0 | 74.1 | 164.9 |
| 630   | 76.8 | 78.2  | 79.8  | 80.5  | 81.6  | 82.3  | 84.7  | 85.3  | 88.8  | 87.1  | 83.5  | 77.2 | 73.4 | 165.7 |
| 800   | 78.0 | 80.2  | 81.2  | 81.5  | 83.5  | 82.8  | 85.0  | 85.6  | 88.1  | 87.0  | 83.1  | 75.7 | 72.4 | 166.3 |
| 1000  | 78.7 | 81.3  | 82.5  | 82.9  | 84.5  | 84.1  | 84.7  | 84.7  | 88.6  | 87.7  | 83.2  | 78.1 | 73.0 | 167.6 |
| 1250  | 78.6 | 82.8  | 84.5  | 85.0  | 87.6  | 86.3  | 86.1  | 85.3  | 87.9  | 86.4  | 83.1  | 77.1 | 72.2 | 168.9 |
| 1600  | 79.1 | 83.3  | 85.5  | 86.8  | 87.0  | 87.4  | 86.8  | 84.7  | 87.1  | 84.4  | 81.4  | 75.1 | 69.0 | 169.9 |
| 2000  | 77.4 | 81.1  | 84.4  | 85.9  | 86.3  | 86.0  | 86.7  | 84.7  | 85.2  | 82.1  | 78.4  | 72.4 | 64.6 | 170.3 |
| 2500  | 71.9 | 77.7  | 80.7  | 83.3  | 83.7  | 83.5  | 84.4  | 81.7  | 83.5  | 79.3  | 74.7  | 68.6 | 57.4 | 170.2 |
| 3150  | 66.3 | 71.6  | 75.5  | 78.9  | 81.1  | 80.5  | 81.7  | 78.6  | 77.2  | 72.1  | 65.8  | 57.1 | 42.1 | 169.7 |
| 4000  | 59.2 | 66.5  | 70.7  | 73.9  | 72.6  | 73.0  | 73.4  | 69.5  | 71.1  | 65.1  | 56.1  | 43.6 | 23.2 | 169.5 |
| 5000  | 41.9 | 53.0  | 58.3  | 62.9  | 65.3  | 65.3  | 65.3  | 61.4  | 63.5  | 56.1  | 43.6  | 26.0 |      | 170.0 |
| 6300  | 20.4 | 35.5  | 43.6  | 48.2  | 52.2  | 52.9  | 52.2  | 47.3  | 50.1  | 42.2  | 25.4  |      |      | 172.3 |
| 8000  |      | 6.5   | 18.0  | 25.1  | 31.1  | 31.5  | 30.4  | 26.3  | 28.4  | 16.4  |       |      |      | 175.7 |
| 10000 |      |       |       |       | 0.9   | 1.9   | 0.4   |       |       |       |       |      |      | 175.9 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 0ASPL | 88.5 | 91.4  | 93.2  | 94.1  | 95.3  | 95.0  | 96.0  | 95.3  | 98.6  | 98.9  | 98.2  | 96.8 | 92.4 | 183.0 |
| PNL   | 97.4 | 101.1 | 103.6 | 105.0 | 105.8 | 105.6 | 106.5 | 105.0 | 107.2 | 105.6 | 103.0 | 98.3 | 93.1 |       |
| PNLT  | 98.5 | 101.7 | 104.2 | 105.0 | 106.3 | 106.3 | 106.5 | 105.0 | 107.2 | 106.3 | 103.0 | 98.3 | 93.1 |       |
| DBA   | 87.0 | 90.5  | 92.6  | 93.8  | 94.9  | 94.6  | 95.2  | 94.1  | 96.7  | 95.0  | 91.7  | 85.8 | 81.4 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.583      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH231      TEST DATE = 08-17-82      LOCAT = C41 ANECH CH      CONFIG = 4      MODEL = AX      FLTVEL = 400. FPS  
 IAPLHA = SB59      IEQA = NO      PWL AREA = FULL SPHERE      TAMB F = 79.00      PAMB HG = 29.50      RELHUM = 71.6 PCT  
 WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1656.7 FPS      AE8 = 4.0 SQ IN  
 FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2643.9 FPS      AE18 = 20.4 SQ IN

RUNPT = 82F-400-0420      TAPE = X04201      TEST PT NO = 0420      NC = AE058      CORR FAN SPEED =      RPM

 ORIGINAL PAGE IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-2ER-1401 X1401C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 80.0 | 77.1 | 70.6 | 72.9 | 75.2 | 73.3 | 74.0 | 76.9 | 74.1 | 74.2 | 78.6 | 80.0  | 83.4  | 118.7 |
| 63    | 88.7 | 87.2 | 74.5 | 79.8 | 85.1 | 80.5 | 83.9 | 84.3 | 80.7 | 84.5 | 80.9 | 78.6  | 87.5  | 126.0 |
| 80    | 77.9 | 81.7 | 78.7 | 79.1 | 79.4 | 80.5 | 82.4 | 82.0 | 81.7 | 82.3 | 82.4 | 85.9  | 88.0  | 124.0 |
| 100   | 78.2 | 82.8 | 79.5 | 80.7 | 81.9 | 81.0 | 81.7 | 83.8 | 83.0 | 84.8 | 87.2 | 90.7  | 93.1  | 126.8 |
| 125   | 76.4 | 79.9 | 81.5 | 82.0 | 82.6 | 82.7 | 83.1 | 83.5 | 83.0 | 85.8 | 90.2 | 94.1  | 96.5  | 129.0 |
| 160   | 78.7 | 75.0 | 78.5 | 79.2 | 79.9 | 79.5 | 83.4 | 80.8 | 81.5 | 84.0 | 89.9 | 93.9  | 97.8  | 128.9 |
| 200   | 80.8 | 78.9 | 78.1 | 79.2 | 80.3 | 80.9 | 84.3 | 85.4 | 86.4 | 87.2 | 91.6 | 96.3  | 100.2 | 131.2 |
| 250   | 75.5 | 80.6 | 78.8 | 79.6 | 80.5 | 82.3 | 85.0 | 85.9 | 86.8 | 90.9 | 95.8 | 100.0 | 102.6 | 134.1 |
| 315   | 80.4 | 80.4 | 79.9 | 81.7 | 83.6 | 83.4 | 86.8 | 88.2 | 88.4 | 92.2 | 96.4 | 101.3 | 103.7 | 135.3 |
| 400   | 76.2 | 79.5 | 80.3 | 81.2 | 82.2 | 83.3 | 94.9 | 87.3 | 89.0 | 94.1 | 97.7 | 102.7 | 104.3 | 136.6 |
| 500   | 76.7 | 79.5 | 80.3 | 81.4 | 82.4 | 84.0 | 86.7 | 87.6 | 90.3 | 94.4 | 98.0 | 102.2 | 103.8 | 136.0 |
| 630   | 76.4 | 79.2 | 81.7 | 82.5 | 83.4 | 84.2 | 84.9 | 87.5 | 89.7 | 95.3 | 98.2 | 101.6 | 102.3 | 135.5 |
| 800   | 78.9 | 80.7 | 83.2 | 83.8 | 84.4 | 85.5 | 86.6 | 89.0 | 90.7 | 95.3 | 98.2 | 100.4 | 99.8  | 134.8 |
| 1000  | 82.4 | 83.2 | 85.0 | 84.8 | 84.6 | 85.7 | 86.9 | 88.8 | 91.0 | 95.6 | 97.2 | 98.4  | 97.5  | 133.8 |
| 1250  | 81.5 | 85.8 | 85.8 | 86.3 | 86.7 | 88.1 | 88.7 | 89.9 | 92.1 | 95.2 | 96.5 | 96.7  | 96.2  | 133.6 |
| 1600  | 81.0 | 85.7 | 85.9 | 86.7 | 87.5 | 88.1 | 88.9 | 90.0 | 91.6 | 94.4 | 95.3 | 94.7  | 94.5  | 132.8 |
| 2000  | 83.3 | 85.4 | 86.8 | 87.0 | 87.1 | 87.7 | 89.2 | 90.2 | 91.6 | 93.6 | 94.1 | 92.7  | 91.5  | 132.2 |
| 2500  | 83.5 | 87.8 | 88.1 | 88.1 | 88.2 | 88.6 | 89.3 | 91.1 | 93.0 | 95.8 | 94.0 | 93.4  | 91.4  | 133.2 |
| 3150  | 84.1 | 87.4 | 88.2 | 88.2 | 88.3 | 89.6 | 90.8 | 91.7 | 92.8 | 95.4 | 95.1 | 94.1  | 93.1  | 133.7 |
| 4000  | 84.8 | 87.2 | 89.1 | 89.0 | 88.9 | 89.9 | 90.8 | 92.4 | 93.7 | 95.9 | 95.2 | 95.7  | 94.7  | 134.5 |
| 5000  | 86.3 | 88.8 | 90.4 | 90.4 | 90.3 | 91.0 | 91.9 | 93.5 | 94.7 | 96.1 | 96.7 | 97.0  | 96.7  | 135.7 |
| 6300  | 88.4 | 90.0 | 91.3 | 91.8 | 92.2 | 92.2 | 93.5 | 94.9 | 95.4 | 95.3 | 95.8 | 96.9  | 97.6  | 136.6 |
| 8000  | 87.5 | 90.8 | 90.9 | 90.7 | 90.6 | 91.9 | 92.6 | 93.7 | 94.9 | 94.9 | 94.7 | 95.2  | 96.1  | 136.0 |
| 10000 | 88.5 | 90.6 | 91.4 | 91.4 | 91.5 | 92.7 | 93.0 | 93.9 | 94.5 | 95.1 | 94.1 | 94.6  | 95.4  | 136.7 |
| 12500 | 89.1 | 89.4 | 91.2 | 91.1 | 91.0 | 92.3 | 92.1 | 93.2 | 93.8 | 93.2 | 92.2 | 92.6  | 93.1  | 136.5 |
| 16000 | 88.2 | 88.8 | 90.0 | 90.4 | 90.7 | 91.2 | 91.0 | 92.4 | 92.6 | 91.1 | 90.7 | 90.3  | 90.1  | 136.7 |
| 20000 | 87.1 | 87.4 | 89.0 | 89.5 | 89.9 | 89.7 | 89.5 | 90.1 | 90.9 | 89.4 | 88.6 | 88.2  | 87.8  | 136.9 |
| 25000 | 84.3 | 85.9 | 87.4 | 88.4 | 89.3 | 89.7 | 89.3 | 89.0 | 89.9 | 88.0 | 86.0 | 85.9  | 83.4  | 138.2 |
| 31500 | 78.7 | 81.0 | 82.5 | 83.3 | 84.1 | 85.5 | 84.5 | 84.0 | 85.0 | 82.9 | 81.0 | 80.4  | 76.2  | 136.4 |
| 40000 | 74.6 | 77.9 | 80.1 | 80.9 | 81.7 | 83.1 | 82.1 | 81.5 | 81.7 | 80.3 | 77.7 | 76.4  | 72.6  | 137.7 |
| 50000 | 71.7 | 73.1 | 75.4 | 77.0 | 78.5 | 79.6 | 78.0 | 77.5 | 78.8 | 76.8 | 73.4 | 72.5  | 67.4  | 138.4 |
| 63000 | 67.0 | 69.7 | 71.9 | 73.0 | 74.0 | 76.2 | 73.6 | 74.6 | 75.4 | 73.2 | 70.7 | 68.6  | 63.1  | 140.0 |
| 80000 | 63.2 | 66.1 | 67.6 | 68.5 | 69.5 | 71.6 | 69.0 | 69.7 | 70.6 | 68.9 | 67.2 | 63.6  | 55.6  | 142.3 |

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CASPL 98.9 100.7 101.5 101.7 102.1 102.8 104.0 104.7 105.8 107.7 109.1 111.5 112.7 150.9  
PNL 109.9 112.1 113.0 113.3 113.8 114.2 115.7 116.8 117.9 120.2 120.9 122.0 122.4  
PNLT 110.7 112.1 113.0 113.3 113.8 114.2 117.1 116.8 117.9 120.2 120.9 122.0 122.4  
DBA 96.0 98.7 99.7 99.9 100.1 100.9 102.1 103.2 104.5 106.9 107.7 109.1 109.5

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH208 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLYVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1643.9 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1357.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-1401 TAPE = X1401C TEST PT NO = 1401 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1401 X1401F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 80.0  | 77.1  | 70.6  | 72.9  | 75.2  | 73.3  | 74.0  | 76.9  | 74.1  | 74.2  | 78.8  | 80.0  | 83.4  | 118.7 |
| 63    | 88.7  | 87.2  | 74.5  | 79.8  | 85.1  | 80.5  | 83.9  | 84.3  | 80.7  | 84.5  | 80.9  | 78.6  | 87.5  | 126.0 |
| 80    | 77.9  | 81.7  | 78.7  | 79.1  | 79.4  | 80.5  | 82.4  | 82.0  | 81.7  | 82.3  | 82.4  | 85.9  | 88.0  | 124.0 |
| 100   | 78.2  | 82.8  | 79.5  | 80.7  | 81.9  | 81.0  | 81.7  | 83.8  | 83.0  | 84.8  | 87.2  | 90.7  | 93.1  | 126.8 |
| 125   | 76.4  | 79.9  | 81.5  | 82.0  | 82.6  | 82.7  | 83.1  | 83.5  | 83.0  | 85.8  | 90.2  | 94.1  | 96.5  | 129.0 |
| 160   | 78.7  | 75.0  | 78.5  | 79.2  | 79.9  | 79.5  | 83.4  | 80.8  | 81.5  | 84.0  | 89.9  | 93.9  | 97.8  | 128.9 |
| 200   | 80.8  | 78.9  | 78.1  | 79.2  | 80.3  | 80.9  | 81.3  | 85.4  | 86.4  | 87.2  | 91.6  | 96.3  | 100.2 | 131.2 |
| 250   | 75.5  | 80.6  | 78.8  | 79.6  | 80.5  | 82.3  | 85.0  | 85.9  | 86.8  | 90.9  | 95.8  | 100.0 | 102.6 | 134.1 |
| 315   | 80.4  | 80.4  | 79.9  | 81.7  | 83.6  | 83.4  | 86.8  | 88.2  | 88.4  | 92.2  | 96.4  | 101.3 | 103.7 | 135.3 |
| 400   | 76.2  | 79.5  | 80.3  | 81.2  | 82.2  | 83.3  | 94.9  | 87.3  | 89.0  | 94.1  | 97.7  | 102.7 | 104.3 | 136.6 |
| 500   | 76.7  | 79.5  | 80.3  | 81.4  | 82.4  | 84.0  | 86.7  | 87.6  | 90.3  | 94.4  | 98.0  | 102.2 | 103.8 | 136.0 |
| 630   | 76.4  | 79.2  | 81.7  | 82.5  | 83.4  | 84.2  | 84.9  | 87.5  | 89.7  | 95.3  | 98.2  | 101.6 | 102.3 | 135.5 |
| 800   | 78.9  | 80.7  | 83.2  | 83.8  | 84.4  | 85.5  | 86.6  | 89.0  | 90.7  | 95.3  | 98.2  | 100.4 | 99.8  | 134.8 |
| 1000  | 82.4  | 83.2  | 85.0  | 84.8  | 84.6  | 85.7  | 86.9  | 88.8  | 91.0  | 95.6  | 97.2  | 98.4  | 97.5  | 133.8 |
| 1250  | 81.5  | 85.8  | 85.8  | 86.3  | 86.7  | 88.1  | 88.7  | 89.9  | 92.1  | 95.2  | 96.5  | 96.7  | 96.2  | 133.6 |
| 1600  | 81.0  | 85.7  | 85.9  | 86.7  | 87.5  | 88.1  | 88.9  | 90.0  | 91.6  | 94.4  | 95.3  | 94.7  | 94.5  | 132.8 |
| 2000  | 83.3  | 85.4  | 86.8  | 87.0  | 87.1  | 87.7  | 89.2  | 90.2  | 91.6  | 93.6  | 94.1  | 92.7  | 91.5  | 132.2 |
| 2500  | 83.5  | 87.8  | 88.1  | 88.1  | 88.2  | 88.6  | 89.3  | 91.1  | 93.0  | 95.8  | 94.0  | 93.4  | 91.4  | 133.2 |
| 3150  | 84.1  | 87.4  | 88.2  | 88.2  | 88.3  | 89.6  | 90.8  | 91.7  | 92.8  | 95.4  | 95.1  | 94.1  | 93.1  | 133.7 |
| 4000  | 84.8  | 87.2  | 89.1  | 89.0  | 88.9  | 89.9  | 90.8  | 92.4  | 93.7  | 95.9  | 95.2  | 95.7  | 94.7  | 134.5 |
| 5000  | 86.3  | 88.8  | 90.4  | 90.4  | 90.3  | 91.0  | 91.9  | 93.5  | 94.7  | 96.1  | 96.7  | 97.0  | 96.7  | 135.7 |
| 6300  | 86.4  | 90.0  | 91.3  | 91.8  | 92.2  | 92.2  | 93.5  | 94.9  | 95.4  | 95.3  | 95.8  | 96.9  | 97.6  | 136.6 |
| 8000  | 87.5  | 90.8  | 90.9  | 90.7  | 90.6  | 91.9  | 92.6  | 93.7  | 94.9  | 94.9  | 94.7  | 95.2  | 96.1  | 136.0 |
| 10000 | 88.5  | 90.6  | 91.4  | 91.4  | 91.5  | 92.7  | 93.0  | 93.9  | 94.5  | 95.1  | 94.1  | 94.6  | 95.4  | 136.7 |
| 12500 | 89.1  | 89.4  | 91.2  | 91.1  | 91.0  | 92.3  | 92.1  | 93.2  | 93.8  | 93.2  | 92.2  | 92.6  | 93.1  | 136.5 |
| 16000 | 88.2  | 88.8  | 90.0  | 90.4  | 90.7  | 91.2  | 91.0  | 92.4  | 92.6  | 91.1  | 90.7  | 90.3  | 90.1  | 136.7 |
| 20000 | 87.1  | 87.4  | 89.0  | 89.5  | 89.9  | 89.7  | 89.5  | 90.1  | 90.9  | 89.4  | 88.6  | 88.2  | 87.8  | 136.9 |
| 25000 | 84.3  | 85.9  | 87.4  | 88.4  | 89.3  | 89.7  | 89.3  | 89.0  | 89.9  | 88.0  | 86.0  | 85.9  | 83.4  | 138.2 |
| 31500 | 78.7  | 81.0  | 82.5  | 83.3  | 84.1  | 85.5  | 84.5  | 84.0  | 85.0  | 82.9  | 81.0  | 80.4  | 76.2  | 136.4 |
| 40000 | 74.6  | 77.9  | 80.1  | 80.9  | 81.7  | 83.1  | 82.1  | 81.5  | 81.7  | 80.3  | 77.7  | 76.4  | 72.8  | 137.7 |
| 50000 | 71.7  | 73.1  | 75.4  | 77.0  | 78.5  | 79.6  | 78.0  | 77.5  | 78.8  | 76.8  | 73.4  | 72.5  | 67.4  | 138.4 |
| 63000 | 67.0  | 69.7  | 71.9  | 73.0  | 74.0  | 76.2  | 73.6  | 74.6  | 75.4  | 73.2  | 70.7  | 68.6  | 63.1  | 140.0 |
| 80000 | 63.2  | 66.1  | 67.6  | 68.5  | 69.5  | 71.6  | 69.0  | 69.7  | 70.6  | 68.9  | 67.2  | 63.6  | 55.6  | 142.3 |
| CASPL | 98.9  | 100.7 | 101.5 | 101.7 | 102.1 | 102.8 | 104.0 | 104.7 | 105.8 | 107.7 | 109.1 | 111.5 | 112.7 | 150.9 |
| PNL   | 109.9 | 112.1 | 113.0 | 113.3 | 113.8 | 114.2 | 115.7 | 116.8 | 117.9 | 120.2 | 120.9 | 122.0 | 122.4 |       |
| PNLT  | 110.7 | 112.1 | 113.0 | 113.3 | 113.8 | 114.2 | 117.1 | 116.8 | 117.9 | 120.2 | 120.9 | 122.0 | 122.4 |       |
| DBA   | 184.4 | 187.2 | 188.9 | 189.9 | 190.9 | 192.9 | 190.4 | 191.1 | 192.0 | 190.2 | 188.3 | 185.1 | 178.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH206 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1643.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1357.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1401 TAPE = X1401F TEST PT NO = 1401 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1401 X14011

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 54.4 | 59.2 | 61.0 | 62.7 | 64.0 | 65.3 | 76.8 | 68.8 | 69.8 | 73.8 | 75.9 | 78.6 | 76.9 | 154.2 |
| 63    | 54.9 | 59.2 | 61.0 | 62.8 | 64.3 | 66.0 | 68.5 | 69.0 | 71.0 | 74.0 | 76.1 | 78.1 | 76.4 | 153.6 |
| 80    | 54.5 | 58.8 | 62.4 | 64.0 | 65.2 | 66.2 | 66.7 | 68.9 | 70.4 | 74.9 | 76.2 | 77.5 | 74.7 | 153.1 |
| 100   | 56.9 | 60.3 | 63.9 | 65.2 | 66.2 | 67.4 | 68.4 | 70.4 | 71.4 | 74.9 | 76.2 | 76.1 | 72.1 | 152.4 |
| 125   | 60.3 | 62.7 | 65.6 | 66.1 | 66.3 | 67.6 | 68.6 | 70.1 | 71.6 | 75.0 | 75.1 | 74.0 | 69.6 | 151.4 |
| 160   | 59.2 | 65.1 | 66.3 | 67.4 | 68.3 | 69.8 | 70.3 | 71.0 | 72.5 | 74.5 | 74.2 | 72.0 | 67.9 | 151.2 |
| 200   | 58.5 | 64.2 | 66.1 | 67.7 | 68.9 | 69.7 | 70.4 | 71.0 | 71.9 | 73.5 | 72.7 | 69.8 | 65.7 | 150.4 |
| 250   | 60.4 | 64.3 | 66.9 | 67.7 | 68.3 | 69.1 | 70.4 | 71.0 | 71.6 | 72.5 | 71.3 | 67.3 | 62.1 | 149.8 |
| 315   | 60.2 | 66.2 | 67.8 | 68.7 | 69.2 | 69.7 | 70.2 | 71.6 | 72.7 | 74.3 | 70.7 | 67.4 | 61.1 | 150.8 |
| 400   | 60.3 | 65.5 | 67.5 | 68.4 | 69.0 | 70.4 | 71.4 | 71.9 | 72.1 | 73.5 | 71.3 | 67.4 | 61.8 | 151.3 |
| 500   | 60.5 | 64.9 | 66.1 | 68.9 | 69.3 | 70.5 | 71.2 | 72.2 | 72.8 | 73.6 | 70.9 | 68.5 | 62.5 | 152.0 |
| 630   | 61.5 | 66.1 | 69.1 | 70.0 | 70.5 | 71.3 | 72.1 | 73.1 | 73.4 | 73.4 | 71.9 | 69.0 | 63.5 | 153.3 |
| 800   | 63.2 | 66.9 | 69.7 | 71.1 | 72.1 | 72.3 | 73.4 | 74.3 | 73.8 | 72.2 | 70.6 | 68.2 | 63.2 | 154.1 |
| 1000  | 61.8 | 67.5 | 69.1 | 69.9 | 70.3 | 71.8 | 72.3 | 72.8 | 73.0 | 71.5 | 69.0 | 65.9 | 60.6 | 153.6 |
| 1250  | 62.3 | 66.9 | 69.4 | 70.4 | 71.0 | 72.5 | 72.5 | 72.9 | 72.5 | 71.4 | 67.9 | 64.5 | 58.4 | 154.3 |
| 1600  | 62.0 | 65.1 | 68.7 | 69.8 | 70.3 | 71.8 | 71.4 | 71.9 | 71.3 | 68.9 | 65.1 | 61.1 | 53.7 | 154.1 |
| 2000  | 60.2 | 63.9 | 67.1 | 68.8 | 69.9 | 70.6 | 70.2 | 70.8 | 69.8 | 66.2 | 62.6 | 57.2 | 47.7 | 154.3 |
| 2500  | 57.2 | 61.2 | 65.2 | 67.2 | 68.5 | 68.6 | 68.1 | 67.9 | 67.1 | 63.2 | 58.7 | 52.2 | 40.5 | 154.5 |
| 3150  | 51.1 | 57.4 | 61.8 | 64.6 | 66.5 | 67.2 | 66.5 | 65.3 | 64.3 | 59.4 | 52.8 | 45.0 | 27.7 | 155.8 |
| 4000  | 39.3 | 47.7 | 53.1 | 56.3 | 58.4 | 60.1 | 58.7 | 56.9 | 55.6 | 49.6 | 41.6 | 30.5 | 6.0  | 154.0 |
| 5000  | 25.3 | 37.0 | 44.5 | 48.4 | 50.9 | 52.9 | 51.4 | 49.0 | 46.0 | 39.4 | 28.5 | 12.9 |      | 155.3 |
| 6300  | 4.7  | 18.0 | 27.7 | 33.7 | 37.7 | 39.5 | 37.1 | 34.2 | 31.1 | 21.7 | 6.4  |      |      | 156.0 |
| 8000  |      |      | 2.9  | 10.4 | 15.0 | 18.3 | 14.6 | 12.0 | 6.3  |      |      |      |      | 157.6 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 159.9 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| CASPL | 72.6 | 77.2 | 79.7 | 80.9 | 81.7 | 82.7 | 84.0 | 84.0 | 84.4 | 85.6 | 85.3 | 85.2 | 82.3 | 168.1 |
| PWL   | 80.7 | 85.2 | 88.4 | 90.1 | 91.3 | 92.0 | 92.1 | 92.4 | 92.1 | 90.9 | 88.5 | 85.7 | 79.9 |       |
| PNLT  | 80.7 | 85.2 | 88.4 | 90.1 | 91.8 | 92.0 | 92.1 | 92.4 | 92.6 | 90.9 | 88.5 | 85.7 | 79.9 |       |
| DBA   | 70.7 | 75.1 | 77.9 | 79.2 | 80.0 | 80.9 | 81.1 | 81.6 | 81.4 | 80.3 | 77.9 | 74.9 | 69.4 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH206 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM VB = 1643.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1357.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1401 TYPE = X14011 TEST PT NO = 1401 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1403 X1403C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREE'S

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 78.0 | 76.1 | 69.8 | 72.2 | 74.5 | 73.6 | 73.0 | 76.6 | 73.3 | 77.2 | 79.8 | 81.5  | 83.4  | 118.7 |
| 63    | 86.4 | 84.2 | 75.5 | 80.3 | 84.1 | 81.2 | 81.9 | 84.5 | 81.7 | 83.8 | 81.4 | 83.6  | 86.0  | 125.1 |
| 80    | 78.7 | 82.7 | 80.0 | 80.2 | 80.4 | 82.0 | 83.1 | 83.3 | 83.2 | 83.8 | 83.7 | 87.1  | 89.8  | 125.2 |
| 100   | 79.2 | 83.5 | 79.8 | 81.3 | 82.9 | 82.0 | 82.2 | 84.6 | 83.5 | 86.1 | 88.5 | 91.2  | 93.8  | 127.6 |
| 125   | 77.2 | 80.4 | 82.2 | 82.9 | 83.6 | 83.7 | 84.1 | 84.0 | 84.2 | 86.3 | 90.9 | 95.1  | 97.8  | 130.0 |
| 160   | 79.2 | 75.5 | 79.2 | 80.2 | 81.1 | 80.5 | 84.4 | 81.8 | 82.7 | 85.5 | 90.9 | 95.1  | 98.8  | 130.0 |
| 200   | 81.1 | 79.4 | 78.9 | 80.1 | 81.3 | 82.4 | 85.3 | 85.7 | 87.1 | 87.9 | 92.6 | 96.8  | 100.9 | 131.9 |
| 250   | 75.8 | 81.8 | 79.8 | 80.8 | 81.7 | 83.6 | 85.7 | 86.6 | 87.6 | 91.9 | 96.8 | 101.2 | 103.6 | 135.1 |
| 315   | 80.1 | 81.2 | 80.4 | 82.2 | 84.1 | 84.4 | 87.8 | 88.2 | 89.7 | 92.5 | 97.4 | 102.1 | 105.0 | 136.2 |
| 400   | 76.7 | 79.8 | 81.3 | 82.3 | 83.4 | 84.3 | 84.9 | 88.3 | 90.5 | 95.1 | 98.2 | 103.7 | 104.8 | 137.3 |
| 500   | 78.2 | 80.3 | 81.3 | 82.4 | 83.4 | 84.8 | 87.2 | 87.8 | 91.3 | 95.1 | 99.5 | 103.4 | 104.3 | 137.0 |
| 630   | 77.7 | 80.5 | 82.7 | 83.7 | 84.6 | 85.5 | 86.1 | 88.8 | 90.5 | 96.0 | 98.7 | 102.6 | 103.5 | 136.4 |
| 800   | 79.7 | 82.2 | 84.2 | 84.7 | 85.1 | 86.0 | 87.4 | 89.8 | 92.2 | 95.8 | 99.2 | 100.9 | 100.3 | 135.5 |
| 1000  | 82.7 | 84.0 | 85.5 | 85.8 | 86.1 | 86.2 | 87.9 | 90.0 | 92.2 | 96.1 | 97.9 | 99.4  | 97.8  | 134.6 |
| 1250  | 82.3 | 87.1 | 86.8 | 87.6 | 88.5 | 89.8 | 90.2 | 91.1 | 93.1 | 96.4 | 97.5 | 97.5  | 96.7  | 134.7 |
| 1600  | 82.3 | 86.9 | 86.6 | 87.4 | 88.2 | 88.8 | 89.9 | 91.0 | 92.6 | 95.2 | 96.6 | 95.2  | 94.0  | 133.6 |
| 2000  | 83.8 | 86.4 | 87.3 | 87.6 | 87.8 | 88.4 | 87.7 | 91.2 | 92.6 | 94.6 | 95.1 | 94.0  | 92.0  | 133.1 |
| 2500  | 84.3 | 88.8 | 88.1 | 88.4 | 88.7 | 89.8 | 90.3 | 92.1 | 94.2 | 96.8 | 95.0 | 94.4  | 92.4  | 134.2 |
| 3150  | 84.6 | 88.2 | 88.9 | 89.2 | 89.6 | 90.6 | 91.5 | 92.2 | 94.0 | 96.9 | 95.9 | 95.3  | 93.3  | 134.7 |
| 4000  | 85.3 | 87.5 | 89.6 | 89.8 | 90.2 | 90.6 | 92.0 | 94.1 | 95.2 | 97.2 | 96.4 | 96.7  | 96.0  | 135.7 |
| 5000  | 87.0 | 89.5 | 90.9 | 91.0 | 91.1 | 91.8 | 92.9 | 94.5 | 96.7 | 97.8 | 97.9 | 98.7  | 97.7  | 137.0 |
| 6300  | 87.9 | 90.2 | 92.1 | 92.5 | 93.0 | 93.5 | 93.7 | 95.4 | 96.4 | 97.0 | 97.3 | 99.4  | 98.9  | 137.7 |
| 8000  | 87.5 | 91.6 | 92.2 | 92.1 | 92.1 | 93.4 | 93.3 | 94.9 | 96.9 | 96.6 | 96.2 | 98.0  | 97.9  | 137.6 |
| 10000 | 90.2 | 94.4 | 95.7 | 96.1 | 96.5 | 96.2 | 96.2 | 94.9 | 96.0 | 96.8 | 96.1 | 100.6 | 102.4 | 140.3 |
| 12500 | 89.8 | 90.6 | 93.2 | 92.7 | 92.3 | 94.0 | 93.3 | 94.2 | 95.0 | 94.4 | 94.2 | 95.6  | 94.8  | 138.1 |
| 16000 | 89.5 | 91.3 | 92.0 | 92.5 | 93.0 | 92.7 | 92.8 | 93.6 | 94.1 | 92.1 | 92.4 | 93.5  | 92.8  | 138.5 |
| 20000 | 88.6 | 89.9 | 91.2 | 91.8 | 92.4 | 92.7 | 92.0 | 91.6 | 92.4 | 90.4 | 90.6 | 91.2  | 90.8  | 139.1 |
| 25000 | 85.1 | 87.2 | 89.2 | 90.3 | 91.3 | 92.4 | 91.3 | 90.3 | 91.2 | 88.7 | 87.8 | 88.9  | 86.2  | 140.0 |
| 31500 | 78.7 | 82.2 | 84.0 | 85.2 | 86.4 | 87.5 | 86.5 | 85.5 | 86.3 | 84.4 | 82.8 | 82.9  | 79.4  | 138.2 |
| 40000 | 75.8 | 78.6 | 80.6 | 82.3 | 83.9 | 84.8 | 84.1 | 83.7 | 83.4 | 82.0 | 79.7 | 78.9  | 75.8  | 139.5 |
| 50000 | 72.0 | 74.6 | 76.9 | 78.9 | 80.8 | 81.6 | 80.5 | 79.7 | 80.1 | 78.3 | 75.7 | 75.5  | 71.7  | 140.4 |
| 63000 | 68.2 | 71.2 | 73.4 | 75.0 | 76.5 | 77.6 | 75.8 | 76.6 | 77.1 | 74.9 | 74.0 | 72.4  | 67.4  | 142.0 |
| 80000 | 61.6 | 67.1 | 69.4 | 70.3 | 71.2 | 73.8 | 71.2 | 71.7 | 72.8 | 70.9 | 70.2 | 67.8  | 60.1  | 144.4 |

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CASPL 99.4 102.0 103.0 103.4 103.9 104.5 105.2 105.7 107.1 108.9 110.2 112.8 113.8 152.5  
PNL 110.1 112.9 113.8 114.3 114.8 115.4 116.5 117.8 119.4 121.4 122.0 123.5 123.5  
PNLT 110.7 112.9 113.8 114.3 115.4 117.7 117.8 119.4 121.4 122.0 123.5 124.4  
DBA 96.5 99.9 100.8 101.2 101.6 102.2 103.1 104.2 105.9 108.0 108.8 110.5 110.6

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH207 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.50 RELHUM = 82.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1647.8 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1423.5 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-ZER-1403 TAPE = X1403C TEST PT NO = 1403 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1403 X1403F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 78.0  | 76.1  | 69.8  | 72.2  | 74.5  | 73.6  | 73.0  | 76.6  | 73.3  | 77.2  | 79.8  | 81.5  | 83.4  | 118.7 |
| 63    | 86.4  | 84.2  | 76.5  | 80.3  | 84.1  | 81.2  | 81.9  | 84.5  | 81.7  | 83.8  | 81.4  | 83.6  | 86.0  | 125.1 |
| 80    | 78.7  | 82.7  | 80.0  | 80.2  | 80.4  | 82.0  | 83.1  | 83.3  | 83.2  | 83.8  | 83.7  | 87.1  | 89.8  | 125.2 |
| 100   | 79.2  | 83.5  | 79.8  | 81.3  | 82.9  | 82.0  | 82.2  | 84.6  | 83.5  | 86.1  | 88.5  | 91.2  | 93.8  | 127.6 |
| 125   | 77.2  | 80.4  | 82.2  | 82.9  | 83.6  | 83.7  | 84.1  | 84.0  | 84.2  | 86.3  | 90.9  | 95.1  | 97.8  | 130.0 |
| 160   | 79.2  | 75.5  | 79.2  | 80.2  | 81.1  | 80.5  | 84.4  | 81.8  | 82.7  | 85.5  | 90.9  | 95.1  | 98.8  | 130.0 |
| 200   | 81.1  | 79.4  | 78.9  | 80.1  | 81.3  | 82.4  | 85.3  | 85.7  | 87.1  | 87.9  | 92.6  | 96.8  | 100.9 | 131.9 |
| 250   | 75.8  | 81.8  | 79.8  | 80.8  | 81.7  | 83.6  | 85.7  | 86.6  | 87.6  | 91.9  | 96.8  | 101.2 | 103.6 | 135.1 |
| 315   | 80.1  | 81.2  | 80.4  | 82.2  | 84.1  | 84.4  | 87.8  | 88.2  | 89.7  | 92.5  | 97.4  | 102.1 | 105.0 | 136.2 |
| 400   | 76.7  | 79.8  | 81.3  | 82.3  | 83.4  | 84.3  | 94.9  | 86.3  | 90.5  | 95.1  | 98.2  | 103.7 | 104.8 | 137.3 |
| 500   | 78.2  | 80.3  | 81.3  | 82.4  | 83.4  | 84.6  | 87.2  | 87.8  | 91.3  | 95.1  | 99.5  | 103.4 | 104.3 | 137.0 |
| 630   | 77.7  | 80.5  | 82.7  | 83.7  | 84.6  | 85.5  | 86.1  | 88.8  | 90.5  | 96.0  | 98.7  | 102.6 | 103.5 | 136.4 |
| 800   | 79.7  | 82.2  | 84.2  | 84.7  | 85.1  | 86.0  | 87.4  | 89.8  | 92.2  | 95.8  | 99.2  | 100.9 | 100.3 | 135.5 |
| 1000  | 82.7  | 84.0  | 85.5  | 85.8  | 86.1  | 86.2  | 87.9  | 90.0  | 92.2  | 96.1  | 97.9  | 99.4  | 97.8  | 134.6 |
| 1250  | 82.3  | 87.1  | 86.8  | 87.6  | 88.5  | 89.8  | 90.2  | 91.1  | 93.1  | 96.4  | 97.5  | 97.5  | 96.7  | 134.7 |
| 1600  | 82.3  | 86.9  | 86.6  | 87.4  | 88.2  | 88.8  | 89.9  | 91.0  | 92.6  | 95.2  | 96.6  | 95.2  | 94.0  | 133.6 |
| 2000  | 83.8  | 86.4  | 87.3  | 87.6  | 87.8  | 88.4  | 89.7  | 91.2  | 92.6  | 94.6  | 95.1  | 94.0  | 92.0  | 133.1 |
| 2500  | 84.3  | 88.8  | 88.1  | 88.4  | 88.7  | 89.8  | 90.3  | 92.1  | 94.2  | 96.8  | 95.0  | 94.4  | 92.4  | 134.2 |
| 3150  | 84.6  | 88.2  | 88.9  | 89.2  | 89.6  | 90.6  | 91.5  | 92.2  | 94.0  | 96.9  | 95.9  | 95.3  | 93.3  | 134.7 |
| 4000  | 85.3  | 87.5  | 89.6  | 89.9  | 90.2  | 90.6  | 92.0  | 94.1  | 95.2  | 97.2  | 96.4  | 96.7  | 96.0  | 135.7 |
| 5000  | 87.0  | 89.5  | 90.9  | 91.0  | 91.1  | 91.8  | 92.9  | 94.5  | 96.7  | 97.8  | 97.9  | 98.7  | 97.7  | 137.0 |
| 6300  | 87.9  | 90.2  | 92.1  | 92.5  | 93.0  | 93.5  | 93.7  | 95.4  | 96.4  | 97.0  | 97.3  | 99.4  | 98.9  | 137.7 |
| 8000  | 87.5  | 91.6  | 92.2  | 92.1  | 92.1  | 93.4  | 93.3  | 94.9  | 95.9  | 96.6  | 96.2  | 98.0  | 97.9  | 137.6 |
| 10000 | 90.2  | 94.4  | 95.7  | 96.1  | 96.5  | 96.2  | 96.2  | 94.9  | 96.0  | 96.8  | 96.1  | 100.6 | 102.4 | 140.3 |
| 12500 | 89.8  | 90.6  | 93.2  | 92.7  | 92.3  | 94.0  | 93.3  | 94.2  | 95.0  | 94.4  | 94.2  | 95.6  | 94.8  | 138.1 |
| 16000 | 89.5  | 91.3  | 92.0  | 92.5  | 93.0  | 92.7  | 92.8  | 93.6  | 94.1  | 92.1  | 92.4  | 93.5  | 92.8  | 138.5 |
| 20000 | 88.6  | 89.9  | 91.2  | 91.8  | 92.4  | 92.7  | 92.0  | 91.6  | 92.4  | 90.4  | 90.6  | 91.2  | 90.8  | 139.1 |
| 25000 | 85.1  | 87.2  | 89.2  | 90.3  | 91.3  | 92.4  | 91.3  | 90.3  | 91.2  | 88.7  | 87.8  | 88.9  | 86.2  | 140.0 |
| 31500 | 78.7  | 82.2  | 84.0  | 85.2  | 86.4  | 87.5  | 86.5  | 85.5  | 86.3  | 84.4  | 82.8  | 82.9  | 79.4  | 138.2 |
| 40000 | 75.8  | 78.6  | 80.3  | 82.3  | 83.9  | 84.8  | 84.1  | 83.7  | 83.4  | 82.0  | 79.7  | 78.9  | 75.8  | 139.5 |
| 50000 | 72.0  | 74.6  | 75.9  | 78.9  | 80.8  | 81.6  | 80.5  | 79.7  | 80.1  | 78.3  | 75.7  | 75.5  | 71.7  | 140.4 |
| 63000 | 68.2  | 71.2  | 73.4  | 75.0  | 76.5  | 77.6  | 75.8  | 76.6  | 77.1  | 74.9  | 74.0  | 72.4  | 67.4  | 142.0 |
| 80000 | 61.6  | 67.1  | 69.4  | 70.3  | 71.2  | 73.8  | 71.2  | 71.7  | 72.8  | 70.9  | 70.2  | 67.8  | 60.1  | 144.4 |
| CASPL | 99.4  | 102.0 | 103.0 | 103.4 | 103.9 | 104.5 | 105.2 | 105.7 | 107.1 | 108.9 | 110.2 | 112.8 | 113.8 | 152.5 |
| PNL   | 110.1 | 112.9 | 113.8 | 114.3 | 114.8 | 115.4 | 116.5 | 117.8 | 119.4 | 121.4 | 122.0 | 123.5 | 123.5 |       |
| PNLT  | 110.7 | 112.9 | 113.8 | 114.3 | 115.7 | 115.4 | 117.7 | 117.8 | 119.4 | 121.4 | 122.0 | 123.5 | 124.4 |       |
| DBA   | 183.7 | 188.3 | 190.6 | 191.7 | 192.8 | 195.0 | 192.7 | 193.1 | 194.1 | 192.1 | 191.3 | 189.2 | 182.5 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH207 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.50 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1647.8 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1423.5 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1403 TAPE = X1403F TEST PT NO = 1403 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1403 X14031

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 54.9 | 59.4 | 62.0 | 63.8 | 65.3 | 66.3 | 76.8 | 69.8 | 71.3 | 74.8 | 76.4 | 79.6 | 77.4 | 154.9 |
| 63    | 56.4 | 59.9 | 62.0 | 63.8 | 65.3 | 66.8 | 69.0 | 69.3 | 72.0 | 74.8 | 77.6 | 79.3 | 76.9 | 154.6 |
| 80    | 55.7 | 60.1 | 63.4 | 65.1 | 66.4 | 67.4 | 67.9 | 70.2 | 71.2 | 75.7 | 76.7 | 78.5 | 76.0 | 154.0 |
| 100   | 57.7 | 61.8 | 64.9 | 66.1 | 66.9 | 67.9 | 69.2 | 71.2 | 72.9 | 75.4 | 77.2 | 76.6 | 72.6 | 153.1 |
| 125   | 60.6 | 63.4 | 66.1 | 67.1 | 67.8 | 68.1 | 69.6 | 71.3 | 72.8 | 75.5 | 75.8 | 75.0 | 69.9 | 152.2 |
| 160   | 60.0 | 66.4 | 67.3 | 68.8 | 70.0 | 71.5 | 71.8 | 72.3 | 73.5 | 75.7 | 75.2 | 72.8 | 68.4 | 152.3 |
| 200   | 59.7 | 66.0 | 66.9 | 68.4 | 69.7 | 70.4 | 71.4 | 72.0 | 72.9 | 74.3 | 74.0 | 70.3 | 65.2 | 151.2 |
| 250   | 60.9 | 65.3 | 67.4 | 68.4 | 69.0 | 69.8 | 70.9 | 72.0 | 72.6 | 73.5 | 72.3 | 68.6 | 62.6 | 150.6 |
| 315   | 61.0 | 7.2  | 67.8 | 68.9 | 69.7 | 70.9 | 71.2 | 72.6 | 73.9 | 75.3 | 71.7 | 68.4 | 62.1 | 151.8 |
| 400   | 60.8 | 66.2 | 68.3 | 69.4 | 70.2 | 71.4 | 72.2 | 72.4 | 73.4 | 75.0 | 72.1 | 68.7 | 62.1 | 152.3 |
| 500   | 61.0 | 65.2 | 68.6 | 69.8 | 70.6 | 71.2 | 72.4 | 74.0 | 74.3 | 74.9 | 72.1 | 69.5 | 63.8 | 153.3 |
| 630   | 62.3 | 66.8 | 69.6 | 70.6 | 71.2 | 72.1 | 73.1 | 74.1 | 75.4 | 75.1 | 73.2 | 70.8 | 64.5 | 154.6 |
| 800   | 62.7 | 67.2 | 70.4 | 71.9 | 72.9 | 73.5 | 73.6 | 74.8 | 74.8 | 73.9 | 72.1 | 70.7 | 64.5 | 155.3 |
| 1000  | 61.8 | 68.2 | 70.3 | 71.3 | 71.8 | 73.3 | 73.1 | 74.1 | 75.0 | 73.3 | 70.5 | 68.7 | 62.3 | 155.2 |
| 1250  | 64.0 | 70.7 | 73.6 | 75.1 | 76.0 | 76.0 | 75.8 | 73.9 | 74.0 | 73.1 | 69.9 | 70.5 | 65.4 | 157.9 |
| 1600  | 62.7 | 66.3 | 70.7 | 71.4 | 71.6 | 73.6 | 72.6 | 72.9 | 72.5 | 70.1 | 67.1 | 64.1 | 55.5 | 155.7 |
| 2000  | 61.4 | 66.4 | 69.1 | 70.9 | 72.1 | 72.1 | 71.9 | 72.0 | 71.3 | 67.2 | 64.4 | 60.4 | 50.5 | 156.1 |
| 2500  | 58.7 | 63.7 | 67.5 | 69.6 | 71.0 | 71.6 | 70.6 | 69.4 | 68.6 | 64.2 | 60.7 | 55.2 | 43.5 | 156.7 |
| 3150  | 51.9 | 58.6 | 63.6 | 66.5 | 68.5 | 70.0 | 68.5 | 66.5 | 65.6 | 60.2 | 54.6 | 48.0 | 30.5 | 157.6 |
| 4000  | 39.3 | 49.0 | 54.6 | 58.1 | 60.6 | 62.1 | 60.7 | 58.4 | 56.8 | 51.1 | 43.3 | 33.0 | 9.2  | 155.8 |
| 5000  | 26.6 | 37.8 | 44.9 | 49.8 | 53.2 | 54.6 | 53.4 | 51.2 | 47.7 | 41.2 | 30.5 | 15.4 |      | 157.1 |
| 6300  | 5.0  | 19.5 | 29.2 | 35.6 | 39.9 | 41.5 | 39.6 | 36.4 | 32.3 | 23.2 | 8.7  |      |      | 158.0 |
| 8000  |      |      | 4.3  | 12.4 | 17.5 | 19.8 | 16.9 | 14.0 | 8.0  |      |      |      |      | 159.6 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 162.0 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 0ASPL | 73.3 | 78.5 | 81.1 | 82.5 | 83.4 | 84.5 | 85.1 | 85.0 | 85.8 | 86.7 | 86.3 | 86.4 | 83.0 | 169.8 |
| PNL   | 81.7 | 87.0 | 90.2 | 92.0 | 93.3 | 94.1 | 93.9 | 93.6 | 93.5 | 92.1 | 89.9 | 88.1 | 82.1 |       |
| PNLT  | 81.7 | 88.2 | 91.2 | 93.3 | 94.8 | 94.1 | 94.4 | 93.6 | 93.5 | 92.1 | 89.9 | 89.4 | 84.2 |       |
| DBA   | 71.5 | 76.8 | 79.9 | 81.3 | 82.2 | 83.0 | 82.7 | 82.7 | 82.9 | 81.8 | 79.3 | 77.5 | 71.5 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |            |         |   |            |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|------------|---------|---|------------|--------|---|----------|
| VEHICLE  | = | ADH207 | TEST DATE | = | 08-16-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 4          | MODEL   | = | AX         | FLTVEL | = | 0. FPS   |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 76.50      | PAMB HG | = | 29.50      | RELHUM | = | 82.8 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 2400.0 FT    | EXT CONFIG | = | SL         | MIKE HT | = |            | NBFR   | = |          |
| FNIN1    | = | LBS    | XNL       | = | RPM      | XNH      | = | RPM          | V8         | = | 1647.8 FPS | AE8     | = | 4.0 SQ IN  |        |   |          |
| FNRMB    | = | LBS    | XNLR      | = | RPM      | XNHR     | = | RPM          | V18        | = | 1423.5 FPS | AE18    | = | 20.4 SQ IN |        |   |          |

RUNPT = 82F-ZER-1403 TAPE = X14031 TEST PT NO = 1403 NC = AE058 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1404 X1404C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 81.5 | 79.6 | 73.3 | 77.4 | 78.7 | 74.6 | 76.2 | 79.9 | 76.8 | 78.4 | 83.8 | 84.7 | 95.4 | 125.0 |
| 63    | 88.9 | 88.5 | 78.5 | 85.0 | 87.1 | 80.0 | 83.1 | 87.8 | 83.5 | 85.0 | 81.2 | 83.6 | 94.0 | 128.2 |
| 80    | 77.9 | 82.7 | 80.2 | 81.3 | 80.6 | 81.7 | 84.1 | 83.8 | 84.0 | 84.3 | 83.2 | 85.6 | 93.0 | 126.0 |
| 100   | 76.7 | 81.8 | 77.8 | 79.6 | 80.7 | 80.3 | 81.2 | 81.8 | 81.8 | 82.8 | 85.2 | 87.9 | 96.3 | 126.8 |
| 125   | 74.9 | 77.4 | 78.7 | 79.5 | 80.3 | 80.0 | 81.3 | 81.5 | 80.7 | 83.0 | 86.7 | 90.8 | 95.8 | 126.9 |
| 160   | 79.4 | 75.2 | 75.7 | 75.3 | 77.4 | 76.5 | 87.1 | 79.8 | 78.7 | 82.0 | 86.7 | 90.4 | 96.0 | 127.0 |
| 200   | 82.8 | 77.6 | 75.1 | 75.2 | 77.8 | 77.6 | 84.0 | 81.7 | 81.4 | 83.2 | 86.3 | 91.0 | 96.4 | 127.3 |
| 250   | 73.3 | 73.6 | 73.6 | 74.6 | 75.2 | 76.8 | 80.5 | 80.1 | 81.1 | 84.7 | 89.8 | 93.5 | 95.9 | 127.7 |
| 315   | 79.9 | 79.2 | 74.4 | 79.7 | 78.8 | 77.2 | 84.8 | 83.7 | 82.4 | 86.0 | 89.4 | 93.8 | 95.7 | 128.4 |
| 400   | 72.0 | 73.8 | 73.8 | 74.6 | 76.2 | 76.8 | 89.4 | 80.3 | 82.5 | 86.9 | 80.2 | 93.4 | 94.3 | 128.4 |
| 500   | 72.0 | 73.3 | 74.6 | 75.8 | 76.2 | 77.3 | 81.4 | 80.3 | 83.3 | 87.4 | 90.5 | 92.7 | 91.1 | 126.9 |
| 630   | 72.2 | 74.2 | 75.2 | 76.0 | 76.9 | 78.2 | 79.4 | 81.3 | 82.2 | 87.8 | 90.4 | 91.1 | 88.8 | 126.2 |
| 800   | 72.9 | 75.2 | 76.0 | 76.3 | 77.6 | 78.5 | 79.9 | 81.8 | 83.8 | 87.8 | 90.5 | 88.6 | 87.0 | 125.8 |
| 1000  | 75.4 | 76.0 | 76.8 | 76.8 | 78.6 | 79.7 | 81.1 | 82.3 | 84.3 | 88.1 | 89.5 | 87.1 | 86.3 | 125.6 |
| 1250  | 79.5 | 83.8 | 82.3 | 82.2 | 82.5 | 83.3 | 84.2 | 84.9 | 86.1 | 90.4 | 89.3 | 84.7 | 84.2 | 127.4 |
| 1600  | 80.8 | 82.7 | 83.6 | 83.2 | 84.2 | 83.6 | 84.7 | 85.7 | 86.9 | 89.7 | 88.8 | 82.7 | 82.0 | 127.5 |
| 2000  | 82.5 | 80.9 | 82.1 | 82.2 | 82.8 | 83.2 | 84.7 | 84.7 | 86.1 | 88.9 | 87.4 | 81.5 | 80.7 | 126.6 |
| 2500  | 82.0 | 82.3 | 82.6 | 82.8 | 84.0 | 84.1 | 85.0 | 87.1 | 87.7 | 90.0 | 86.3 | 80.6 | 80.1 | 127.5 |
| 3150  | 83.1 | 83.7 | 84.2 | 83.7 | 84.8 | 85.6 | 86.8 | 87.5 | 87.8 | 90.2 | 86.9 | 80.3 | 79.6 | 128.3 |
| 4000  | 83.3 | 83.5 | 84.4 | 84.8 | 86.0 | 86.4 | 86.6 | 89.1 | 89.3 | 90.2 | 87.0 | 81.0 | 78.5 | 129.1 |
| 5000  | 85.3 | 85.8 | 86.5 | 86.6 | 87.1 | 87.9 | 88.5 | 90.1 | 90.3 | 90.4 | 88.5 | 82.3 | 79.0 | 130.5 |
| 6300  | 86.0 | 87.1 | 88.2 | 88.3 | 89.8 | 89.6 | 90.6 | 91.8 | 91.8 | 90.7 | 88.0 | 82.5 | 79.2 | 132.2 |
| 8000  | 85.2 | 87.5 | 87.6 | 87.8 | 88.3 | 89.3 | 89.3 | 90.8 | 90.8 | 90.4 | 88.1 | 82.1 | 78.8 | 131.8 |
| 10000 | 86.0 | 88.7 | 88.8 | 88.9 | 89.0 | 90.7 | 90.2 | 91.5 | 90.9 | 90.5 | 87.4 | 82.9 | 79.4 | 133.1 |
| 12500 | 87.0 | 87.9 | 89.0 | 88.9 | 89.0 | 90.0 | 89.5 | 91.2 | 90.8 | 89.2 | 86.2 | 82.7 | 79.5 | 133.5 |
| 16000 | 86.9 | 89.6 | 89.3 | 89.1 | 89.5 | 89.4 | 89.8 | 90.6 | 89.9 | 88.1 | 85.2 | 81.7 | 79.0 | 134.7 |
| 20000 | 86.8 | 88.8 | 88.7 | 89.7 | 89.5 | 89.5 | 89.1 | 89.0 | 88.6 | 86.0 | 84.3 | 80.4 | 77.3 | 135.9 |
| 25000 | 84.0 | 86.9 | 87.7 | 88.7 | 89.3 | 90.7 | 89.6 | 88.4 | 88.7 | 85.2 | 82.4 | 78.9 | 74.6 | 137.9 |
| 31500 | 79.0 | 82.1 | 83.4 | 85.0 | 85.4 | 86.5 | 85.3 | 85.4 | 85.4 | 82.1 | 78.8 | 74.4 | 68.8 | 137.2 |
| 40000 | 75.8 | 79.3 | 81.1 | 81.6 | 82.8 | 84.1 | 83.5 | 83.2 | 82.9 | 79.6 | 76.5 | 71.9 | 66.0 | 138.7 |
| 50000 | 71.9 | 75.3 | 76.9 | 77.0 | 79.4 | 81.4 | 80.1 | 79.0 | 79.6 | 76.0 | 72.6 | 68.8 | 61.9 | 139.5 |
| 63000 | 66.4 | 70.6 | 72.6 | 72.0 | 75.3 | 76.9 | 74.9 | 76.0 | 75.8 | 72.2 | 69.8 | 64.4 | 57.0 | 140.6 |
| 80000 | 58.2 | 65.4 | 65.9 | 65.3 | 67.8 | 70.9 | 68.6 | 69.1 | 69.4 | 67.6 | 64.0 | 58.2 | 48.3 | 141.0 |

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GASPL 97.7 99.0 98.9 99.4 100.0 100.5 101.3 101.8 101.8 102.5 102.3 102.7 105.9 148.9  
PNL 108.1 108.9 109.2 109.6 110.7 110.8 112.4 113.2 113.4 114.8 113.6 110.8 111.8  
PNLT 109.6 110.4 109.2 110.4 111.3 110.8 113.8 113.8 113.4 114.8 113.6 110.8 111.8  
DBA 94.2 95.4 95.8 95.9 96.8 97.3 98.2 99.4 99.7 101.3 100.2 98.1 97.9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH236 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1641.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1428.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1404 TAPE = X1404C TEST PT NO = 1404 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1404 X1404F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63    |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80    |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 100   |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 125   |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 160   |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 200   |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 250   | 79.0 | 78.3 | 77.3 | 77.1 | 76.4 | 76.8 | 78.6 | 76.5 | 79.0 | 81.6 | 84.5 | 89.4 | 93.1 | 124.7 |
| 315   | 79.0 | 78.3 | 77.3 | 77.1 | 80.1 | 77.4 | 83.5 | 80.9 | 79.3 | 82.8 | 85.8 | 89.7 | 93.2 | 125.6 |
| 400   | 86.5 | 84.4 | 78.3 | 82.2 | 77.9 | 77.0 | 88.1 | 77.6 | 80.4 | 83.7 | 86.5 | 89.9 | 91.6 | 126.8 |
| 500   | 78.7 | 79.5 | 78.3 | 77.7 | 78.1 | 77.6 | 80.2 | 77.7 | 79.6 | 84.5 | 87.1 | 89.5 | 91.5 | 125.1 |
| 630   | 79.4 | 79.5 | 79.4 | 79.2 | 78.8 | 78.6 | 78.2 | 78.7 | 81.6 | 85.1 | 87.9 | 88.5 | 92.7 | 125.6 |
| 800   | 79.8 | 80.6 | 80.2 | 79.5 | 79.6 | 79.0 | 78.9 | 79.4 | 82.6 | 86.0 | 87.7 | 88.4 | 94.6 | 126.5 |
| 1000  | 80.2 | 81.4 | 80.9 | 79.8 | 80.7 | 80.4 | 80.2 | 80.0 | 84.6 | 88.5 | 87.7 | 86.2 | 92.7 | 126.5 |
| 1250  | 82.2 | 81.8 | 81.5 | 80.2 | 84.3 | 84.1 | 83.5 | 82.7 | 85.6 | 88.0 | 87.6 | 84.5 | 90.8 | 126.9 |
| 1600  | 84.6 | 88.3 | 86.0 | 85.0 | 86.4 | 84.6 | 84.2 | 83.9 | 85.2 | 87.6 | 86.5 | 83.6 | 89.9 | 128.1 |
| 2000  | 86.7 | 88.0 | 88.0 | 86.6 | 85.0 | 84.5 | 84.4 | 83.1 | 89.4 | 91.3 | 87.8 | 85.0 | 91.4 | 129.5 |
| 2500  | 87.5 | 85.4 | 85.9 | 85.2 | 86.6 | 85.7 | 86.2 | 87.7 | 90.1 | 92.2 | 89.5 | 86.0 | 92.2 | 130.2 |
| 3150  | 88.0 | 87.7 | 87.2 | 86.5 | 87.9 | 87.7 | 88.4 | 88.5 | 91.8 | 92.6 | 90.0 | 87.5 | 92.3 | 131.4 |
| 4000  | 89.3 | 89.4 | 89.1 | 87.7 | 89.7 | 89.0 | 88.7 | 90.5 | 93.0 | 93.0 | 91.8 | 89.0 | 93.1 | 132.8 |
| 5000  | 90.9 | 90.2 | 90.1 | 89.5 | 91.1 | 90.9 | 90.9 | 91.7 | 95.0 | 93.9 | 92.0 | 89.9 | 94.1 | 134.2 |
| 6300  | 92.3 | 92.3 | 92.1 | 91.3 | 93.9 | 92.6 | 93.0 | 93.6 | 94.0 | 93.5 | 92.0 | 89.5 | 93.5 | 135.5 |
| 8000  | 93.3 | 93.7 | 93.9 | 93.0 | 92.3 | 92.3 | 91.7 | 92.6 | 94.7 | 94.4 | 92.0 | 90.7 | 94.3 | 136.2 |
| 10000 | 92.3 | 93.9 | 93.1 | 92.4 | 93.0 | 93.7 | 92.7 | 93.4 | 94.5 | 93.0 | 90.4 | 89.9 | 93.5 | 136.7 |
| 12500 | 92.9 | 94.9 | 94.0 | 93.1 | 93.0 | 93.0 | 91.8 | 92.8 | 93.2 | 91.2 | 88.8 | 88.2 | 92.3 | 137.2 |
| 16000 | 93.0 | 93.3 | 93.6 | 92.6 | 93.3 | 92.4 | 91.5 | 91.5 | 91.4 | 88.5 | 87.2 | 86.3 | 90.0 | 137.7 |
| 20000 | 91.7 | 94.0 | 93.1 | 92.1 | 93.5 | 92.5 | 90.6 | 89.2 | 92.3 | 88.8 | 86.7 | 86.2 | 88.8 | 139.2 |
| 25000 | 91.6 | 93.1 | 92.2 | 92.3 | 93.4 | 93.7 | 91.2 | 88.7 | 91.1 | 88.0 | 85.7 | 85.0 | 87.0 | 141.4 |
| 31500 | 88.6 | 90.7 | 90.6 | 90.7 | 89.5 | 89.5 | 87.4 | 86.8 | 89.4 | 86.3 | 84.2 | 83.3 | 84.9 | 141.9 |
| 40000 | 82.7 | 85.1 | 85.5 | 86.1 | 86.8 | 87.1 | 85.6 | 84.5 | 86.3 | 82.9 | 80.6 | 80.6 | 81.3 | 142.2 |
| 50000 | 79.1 | 81.9 | 82.8 | 82.3 | 84.0 | 84.4 | 82.1 | 80.1 | 83.0 | 79.2 | 77.3 | 75.2 | 75.2 | 143.3 |
| 63000 | 77.1 | 79.2 | 79.4 | 77.9 | 79.9 | 79.9 | 76.9 | 77.0 | 77.9 | 75.8 | 72.5 | 69.7 | 67.2 | 144.6 |
| 80000 | 70.1 | 73.0 | 73.6 | 71.4 | 72.4 | 73.9 | 70.5 | 70.0 | 68.1 | 66.0 | 62.7 | 59.9 | 57.4 | 144.6 |

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GASPL 102.7 103.6 103.2 102.5 103.3 103.0 102.3 102.3 104.2 103.8 102.3 101.6 105.6 152.3  
 PNL 112.5 112.6 112.2 111.5 113.1 112.2 112.7 112.9 115.4 115.6 114.4 112.7 117.0  
 PNLT 113.8 113.7 112.2 113.1 113.1 112.2 113.8 113.6 115.4 115.6 114.4 112.7 117.0  
 DBA 192.2 194.8 195.3 193.5 194.8 195.8 192.6 192.1 191.8 189.5 186.4 183.8 182.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH236 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1641.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1428.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1404 TAPE = X1404F TEST PT NO = 1404 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1404 X14041

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 64.6 | 64.1 | 59.0 | 63.7 | 59.8 | 59.1 | 70.0 | 59.1 | 61.1 | 63.3 | 64.7 | 65.9 | 64.3 | 144.4 |
| 63    | 56.8 | 59.2 | 59.1 | 59.2 | 59.9 | 59.6 | 62.1 | 59.1 | 60.4 | 64.2 | 65.2 | 65.4 | 64.1 | 142.7 |
| 80    | 57.4 | 59.1 | 60.1 | 60.7 | 60.7 | 60.6 | 60.1 | 60.1 | 62.3 | 64.8 | 66.0 | 64.4 | 65.1 | 143.2 |
| 100   | 57.8 | 60.2 | 60.9 | 60.9 | 61.4 | 60.9 | 60.6 | 60.7 | 63.2 | 65.5 | 65.7 | 64.2 | 66.9 | 144.1 |
| 125   | 58.1 | 60.9 | 61.5 | 61.1 | 62.4 | 62.2 | 61.9 | 61.3 | 65.2 | 68.0 | 65.6 | 61.8 | 64.8 | 144.1 |
| 160   | 59.9 | 61.1 | 61.9 | 61.4 | 65.9 | 65.9 | 65.1 | 63.9 | 66.1 | 67.4 | 65.2 | 59.9 | 62.5 | 144.5 |
| 200   | 62.1 | 67.4 | 66.3 | 66.0 | 67.9 | 66.2 | 65.6 | 64.9 | 65.4 | 66.7 | 63.9 | 58.6 | 61.1 | 145.7 |
| 250   | 63.9 | 66.8 | 68.0 | 67.4 | 66.2 | 65.8 | 65.7 | 63.9 | 69.4 | 70.1 | 64.9 | 59.6 | 62.0 | 147.1 |
| 315   | 64.2 | 63.9 | 65.6 | 65.7 | 67.6 | 66.8 | 67.1 | 68.2 | 69.8 | 70.7 | 66.1 | 60.0 | 62.0 | 147.8 |
| 400   | 64.2 | 65.8 | 66.6 | 66.7 | 68.6 | 68.5 | 69.0 | 68.7 | 71.2 | 70.7 | 66.2 | 60.9 | 61.1 | 149.0 |
| 500   | 65.0 | 67.0 | 68.1 | 67.6 | 70.1 | 69.6 | 69.1 | 70.4 | 72.1 | 70.7 | 67.5 | 61.8 | 60.9 | 150.4 |
| 630   | 66.1 | 67.5 | 68.8 | 69.1 | 71.3 | 71.1 | 71.0 | 71.3 | 73.7 | 71.2 | 67.2 | 62.0 | 60.8 | 151.8 |
| 800   | 67.1 | 69.2 | 70.5 | 70.7 | 73.8 | 72.6 | 72.9 | 72.9 | 72.4 | 70.4 | 66.8 | 60.8 | 59.1 | 153.1 |
| 1000  | 67.6 | 70.3 | 72.0 | 72.1 | 72.0 | 72.2 | 71.4 | 71.7 | 72.9 | 71.0 | 66.3 | 61.4 | 58.7 | 153.8 |
| 1250  | 66.1 | 70.2 | 71.1 | 71.4 | 72.6 | 73.5 | 72.3 | 72.4 | 72.5 | 69.2 | 64.2 | 59.8 | 56.5 | 154.3 |
| 1600  | 65.8 | 70.5 | 71.5 | 71.8 | 72.3 | 72.5 | 71.1 | 71.5 | 70.7 | 66.9 | 61.7 | 56.7 | 52.9 | 154.8 |
| 2000  | 65.0 | 68.4 | 70.7 | 71.0 | 72.5 | 71.8 | 70.7 | 69.9 | 68.5 | 63.6 | 59.1 | 53.2 | 47.7 | 155.3 |
| 2500  | 61.8 | 67.9 | 69.3 | 69.9 | 72.0 | 71.3 | 69.2 | 67.0 | 68.6 | 62.6 | 56.8 | 50.3 | 41.5 | 156.8 |
| 3150  | 58.4 | 64.5 | 66.5 | 66.5 | 70.6 | 71.2 | 68.4 | 64.9 | 65.5 | 59.4 | 52.5 | 44.1 | 31.3 | 159.0 |
| 4000  | 49.1 | 57.4 | 61.1 | 63.6 | 69.7 | 64.2 | 61.6 | 59.7 | 59.9 | 53.0 | 44.8 | 33.4 | 14.8 | 159.4 |
| 5000  | 33.4 | 44.2 | 49.8 | 53.6 | 56.1 | 56.9 | 54.8 | 52.0 | 50.6 | 42.0 | 31.4 | 17.0 |      | 159.8 |
| 6300  | 12.1 | 26.8 | 35.0 | 39.0 | 43.2 | 44.3 | 41.2 | 36.8 | 35.3 | 24.1 | 10.3 |      |      | 160.9 |
| 8000  |      |      | 10.3 | 15.4 | 20.9 | 22.1 | 17.9 | 14.4 | 8.8  |      |      |      |      | 162.2 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 162.2 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| DASPL | 76.7 | 79.7 | 80.8 | 81.1 | 82.5 | 82.4 | 81.8 | 81.3 | 82.4 | 81.1 | 77.8 | 74.2 | 74.6 | 169.8 |
| PNL   | 85.3 | 89.6 | 91.1 | 91.7 | 93.5 | 93.5 | 91.8 | 90.6 | 91.5 | 88.0 | 83.3 | 78.1 | 76.5 |       |
| PNLT  | 85.3 | 90.2 | 91.6 | 92.2 | 94.0 | 94.0 | 92.3 | 90.6 | 92.1 | 88.0 | 83.3 | 78.1 | 76.5 |       |
| DBA   | 75.2 | 78.7 | 80.2 | 80.6 | 82.0 | 82.0 | 80.8 | 80.5 | 81.0 | 78.3 | 73.9 | 68.6 | 67.0 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH236 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400 FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1641.3 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1428.3 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1404 TAPE = X14041 TEST PT NO = 1404 NC = AE05B CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY.

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P1185-08

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1405 X1405C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 80.0 | 77.6 | 73.1 | 75.8 | 78.5 | 74.3 | 73.2 | 75.1 | 78.3 | 80.7 | 80.8 | 81.5  | 84.4  | 120.4 |
| 63    | 88.9 | 86.5 | 78.5 | 82.7 | 86.9 | 81.7 | 84.1 | 84.5 | 85.7 | 87.3 | 81.7 | 83.6  | 85.8  | 127.1 |
| 80    | 79.4 | 83.7 | 80.7 | 80.9 | 81.1 | 82.5 | 83.6 | 83.5 | 83.7 | 84.6 | 84.2 | 87.6  | 90.3  | 125.8 |
| 100   | 80.2 | 85.0 | 81.0 | 82.3 | 83.7 | 83.5 | 83.9 | 85.8 | 84.5 | 86.6 | 89.2 | 92.4  | 95.3  | 128.8 |
| 125   | 78.4 | 81.7 | 83.2 | 83.9 | 84.6 | 85.0 | 85.1 | 85.5 | 85.6 | 87.5 | 91.7 | 96.3  | 98.3  | 130.9 |
| 160   | 79.7 | 76.0 | 80.2 | 80.9 | 81.6 | 81.7 | 85.1 | 83.3 | 83.5 | 86.3 | 91.4 | 95.9  | 100.0 | 130.9 |
| 200   | 81.6 | 80.1 | 79.9 | 80.9 | 82.0 | 82.9 | 85.8 | 86.7 | 88.1 | 89.2 | 93.3 | 98.3  | 101.7 | 132.9 |
| 250   | 76.8 | 82.8 | 80.6 | 81.3 | 82.0 | 84.6 | 86.2 | 87.6 | 88.6 | 92.6 | 97.5 | 102.0 | 104.1 | 135.8 |
| 315   | 82.1 | 82.2 | 80.9 | 83.2 | 85.6 | 85.7 | 88.6 | 89.5 | 90.2 | 93.7 | 98.1 | 103.1 | 106.0 | 137.2 |
| 400   | 77.7 | 80.8 | 82.0 | 82.8 | 83.7 | 85.0 | 95.7 | 88.8 | 91.3 | 95.6 | 99.2 | 104.2 | 105.6 | 138.0 |
| 500   | 79.0 | 81.5 | 82.1 | 83.1 | 84.2 | 85.5 | 88.2 | 89.1 | 92.1 | 95.9 | 99.5 | 103.9 | 105.6 | 137.7 |
| 630   | 78.9 | 81.7 | 83.5 | 84.3 | 85.1 | 86.7 | 87.1 | 89.5 | 91.5 | 96.8 | 99.2 | 102.9 | 103.5 | 136.8 |
| 800   | 80.2 | 83.2 | 84.7 | 85.4 | 86.1 | 87.2 | 88.4 | 90.8 | 92.5 | 96.8 | 99.2 | 100.4 | 100.5 | 135.7 |
| 1000  | 83.4 | 84.2 | 86.0 | 86.2 | 86.4 | 87.2 | 88.1 | 90.8 | 93.2 | 96.8 | 98.4 | 98.9  | 98.0  | 135.0 |
| 1250  | 83.5 | 87.6 | 87.3 | 88.4 | 89.5 | 90.3 | 91.2 | 91.9 | 93.6 | 96.9 | 98.0 | 97.7  | 97.2  | 135.2 |
| 1600  | 83.0 | 87.2 | 86.9 | 87.8 | 88.7 | 89.6 | 90.4 | 92.0 | 94.1 | 95.9 | 97.1 | 95.5  | 95.0  | 134.3 |
| 2000  | 84.8 | 87.2 | 87.8 | 88.0 | 88.1 | 89.2 | 90.4 | 91.7 | 93.3 | 95.4 | 95.9 | 94.5  | 93.0  | 133.7 |
| 2500  | 84.8 | 88.8 | 88.8 | 89.1 | 89.5 | 90.1 | 91.3 | 93.4 | 95.2 | 97.3 | 95.8 | 95.1  | 93.6  | 134.9 |
| 3150  | 84.9 | 87.7 | 89.4 | 89.6 | 89.8 | 91.6 | 92.5 | 93.2 | 94.5 | 97.1 | 96.6 | 95.8  | 94.3  | 135.3 |
| 4000  | 85.3 | 88.0 | 89.8 | 90.0 | 90.2 | 91.1 | 92.0 | 94.4 | 96.2 | 97.4 | 97.4 | 97.7  | 97.0  | 136.2 |
| 5000  | 87.0 | 89.8 | 91.4 | 91.5 | 91.6 | 92.8 | 93.2 | 94.8 | 96.7 | 98.3 | 99.4 | 99.2  | 99.2  | 137.7 |
| 6300  | 89.2 | 91.2 | 92.8 | 93.1 | 93.5 | 94.0 | 94.2 | 95.9 | 97.2 | 98.0 | 99.3 | 100.6 | 100.4 | 138.7 |
| 8000  | 90.0 | 92.6 | 92.9 | 92.6 | 92.3 | 93.4 | 93.3 | 95.7 | 97.1 | 97.1 | 97.7 | 98.7  | 100.4 | 138.4 |
| 10000 | 91.2 | 94.1 | 94.2 | 93.8 | 93.5 | 94.7 | 94.0 | 95.4 | 96.3 | 97.1 | 97.1 | 98.3  | 99.4  | 139.1 |
| 12500 | 93.3 | 94.1 | 95.7 | 94.7 | 93.8 | 94.5 | 94.1 | 95.2 | 95.8 | 95.2 | 95.2 | 96.3  | 97.1  | 139.4 |
| 16000 | 92.2 | 94.3 | 94.7 | 95.2 | 95.7 | 94.5 | 93.5 | 94.1 | 94.6 | 93.1 | 93.7 | 94.0  | 94.6  | 140.2 |
| 20000 | 90.3 | 91.1 | 93.2 | 94.3 | 95.4 | 95.2 | 93.3 | 92.9 | 92.9 | 90.9 | 92.1 | 91.9  | 91.8  | 140.9 |
| 25000 | 86.8 | 88.4 | 90.7 | 91.9 | 93.1 | 94.4 | 93.8 | 92.5 | 92.4 | 89.5 | 89.3 | 89.4  | 87.9  | 141.8 |
| 31500 | 80.5 | 83.5 | 85.0 | 86.5 | 87.9 | 89.5 | 88.5 | 88.0 | 87.8 | 86.2 | 84.8 | 83.6  | 80.7  | 139.9 |
| 40000 | 77.3 | 80.6 | 82.6 | 84.0 | 85.4 | 86.3 | 85.4 | 85.5 | 85.4 | 83.0 | 81.9 | 80.1  | 77.3  | 141.1 |
| 50000 | 73.2 | 76.8 | 78.9 | 80.5 | 82.0 | 83.8 | 81.7 | 81.2 | 82.3 | 80.1 | 78.9 | 77.0  | 73.2  | 142.2 |
| 63000 | 70.0 | 72.9 | 75.4 | 76.7 | 78.0 | 80.7 | 77.8 | 78.1 | 79.1 | 77.2 | 76.7 | 73.6  | 68.9  | 144.1 |
| 80000 | 63.2 | 68.8 | 71.9 | 72.8 | 73.7 | 76.8 | 73.7 | 73.9 | 75.1 | 73.9 | 73.0 | 69.1  | 62.1  | 146.9 |

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OF FOUR QUALITY

0ASPL 101.2 103.1 104.0 104.2 104.7 105.3 105.7 106.5 107.8 109.5 111.0 113.3 114.5 153.9  
PNL 111.1 113.5 114.4 114.8 115.2 116.0 117.0 118.4 120.1 121.9 123.1 124.1 124.5  
PNLT 111.9 113.5 114.4 114.8 115.2 116.0 118.2 118.4 120.1 121.9 123.1 124.1 124.5  
DBA 97.4 100.2 101.1 101.3 101.6 102.6 103.4 104.9 106.6 108.6 109.6 110.8 111.2

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH208     | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 76.50       | PAMB HG = 29.45   | RELHUM = 82.8 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1627.7 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1465.6 FPS | AE18 = 20.4 SQ IN |                   |
| RUNPT = 82F-ZER-1405 | TAPE = X1405C        | TEST PT NO = 1405      | NC = AE058           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1405 X1405F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| 50    | 80.0 | 77.6 | 73.1 | 75.8 | 78.5 | 74.3 | 73.2 | 75.1 | 78.3 | 80.7 | 80.8 | 81.5  | 84.4  | 120.4 |
| 63    | 88.9 | 86.5 | 78.5 | 82.7 | 86.9 | 81.7 | 84.1 | 84.5 | 85.7 | 87.3 | 81.7 | 83.6  | 85.8  | 127.1 |
| 80    | 79.4 | 83.7 | 80.7 | 80.9 | 81.1 | 82.5 | 83.6 | 83.5 | 83.7 | 84.6 | 84.2 | 87.6  | 90.3  | 125.8 |
| 100   | 80.2 | 85.0 | 81.0 | 82.3 | 83.7 | 83.5 | 83.9 | 85.8 | 84.5 | 86.6 | 89.2 | 92.4  | 95.3  | 128.8 |
| 125   | 78.4 | 81.7 | 83.2 | 83.9 | 84.6 | 85.0 | 85.1 | 85.5 | 85.5 | 87.5 | 91.7 | 96.3  | 98.3  | 130.9 |
| 160   | 79.7 | 76.0 | 80.2 | 80.9 | 81.6 | 81.7 | 85.1 | 83.3 | 83.5 | 86.3 | 91.4 | 95.9  | 100.0 | 130.9 |
| 200   | 81.6 | 80.1 | 79.9 | 80.9 | 82.0 | 82.9 | 85.8 | 86.7 | 88.1 | 89.2 | 93.3 | 98.3  | 101.7 | 132.9 |
| 250   | 76.8 | 82.8 | 80.6 | 81.3 | 82.0 | 84.6 | 86.2 | 87.6 | 88.6 | 92.6 | 97.5 | 102.0 | 104.1 | 135.8 |
| 315   | 82.1 | 82.2 | 80.9 | 83.2 | 85.6 | 85.7 | 88.6 | 89.5 | 90.2 | 93.7 | 98.1 | 103.1 | 106.0 | 137.2 |
| 400   | 77.7 | 80.8 | 82.0 | 82.8 | 83.7 | 85.0 | 95.7 | 88.8 | 91.3 | 95.6 | 99.2 | 104.2 | 105.6 | 138.0 |
| 500   | 79.0 | 81.5 | 82.1 | 83.1 | 84.2 | 85.5 | 88.2 | 89.1 | 92.1 | 95.9 | 99.5 | 103.9 | 105.6 | 137.7 |
| 630   | 78.9 | 81.7 | 83.5 | 84.3 | 85.1 | 86.7 | 87.1 | 89.5 | 91.5 | 96.8 | 99.2 | 102.9 | 103.5 | 136.8 |
| 800   | 80.2 | 83.2 | 84.7 | 85.4 | 86.1 | 87.2 | 88.4 | 90.8 | 92.5 | 96.8 | 99.2 | 100.4 | 100.5 | 135.7 |
| 1000  | 83.4 | 84.2 | 86.0 | 86.2 | 86.4 | 87.2 | 88.1 | 90.8 | 93.2 | 96.8 | 98.4 | 98.9  | 98.0  | 135.0 |
| 1250  | 83.5 | 87.6 | 87.3 | 88.4 | 89.5 | 90.3 | 91.2 | 91.9 | 93.6 | 96.9 | 98.0 | 97.7  | 97.2  | 135.2 |
| 1600  | 83.0 | 87.2 | 86.9 | 87.8 | 88.7 | 89.6 | 90.4 | 92.0 | 94.1 | 95.9 | 97.1 | 95.5  | 95.0  | 134.3 |
| 2000  | 84.8 | 87.2 | 87.8 | 88.0 | 88.1 | 89.2 | 90.4 | 91.7 | 93.3 | 95.4 | 95.9 | 94.5  | 93.0  | 133.7 |
| 2500  | 84.8 | 88.8 | 88.8 | 89.1 | 89.5 | 90.1 | 91.3 | 93.4 | 95.2 | 97.3 | 95.8 | 95.1  | 93.6  | 134.9 |
| 3150  | 84.9 | 87.7 | 89.4 | 89.6 | 89.8 | 91.6 | 92.5 | 93.2 | 94.5 | 97.1 | 96.6 | 95.8  | 94.3  | 135.3 |
| 4000  | 85.3 | 88.0 | 89.8 | 90.0 | 90.2 | 91.1 | 92.0 | 94.4 | 96.2 | 97.4 | 97.4 | 97.7  | 97.0  | 136.2 |
| 5000  | 87.0 | 89.8 | 91.4 | 91.5 | 91.6 | 92.8 | 93.2 | 94.8 | 96.7 | 98.3 | 99.4 | 99.2  | 99.2  | 137.7 |
| 6300  | 89.2 | 91.2 | 92.8 | 93.1 | 93.5 | 94.0 | 94.2 | 95.9 | 97.2 | 98.0 | 99.3 | 100.6 | 100.4 | 138.7 |
| 8000  | 90.0 | 92.6 | 92.9 | 92.6 | 92.3 | 93.4 | 93.3 | 95.7 | 97.1 | 97.1 | 97.7 | 98.7  | 100.4 | 138.4 |
| 10000 | 91.2 | 94.1 | 94.2 | 93.8 | 93.5 | 94.7 | 94.0 | 95.4 | 96.3 | 97.1 | 97.1 | 98.3  | 99.4  | 139.1 |
| 12500 | 93.3 | 94.1 | 95.7 | 94.7 | 93.8 | 94.5 | 94.1 | 95.2 | 95.8 | 95.2 | 95.2 | 96.3  | 97.1  | 139.4 |
| 16000 | 92.2 | 94.3 | 94.7 | 95.2 | 95.7 | 94.5 | 93.5 | 94.1 | 94.6 | 93.1 | 93.7 | 94.0  | 94.6  | 140.2 |
| 20000 | 90.3 | 91.1 | 93.2 | 94.3 | 95.4 | 95.2 | 93.3 | 92.9 | 92.9 | 90.9 | 92.1 | 91.9  | 91.8  | 140.9 |
| 25000 | 86.8 | 88.4 | 90.7 | 91.9 | 93.1 | 94.4 | 93.8 | 92.5 | 92.4 | 89.5 | 89.3 | 89.4  | 87.9  | 141.8 |
| 31500 | 80.5 | 83.5 | 85.0 | 86.5 | 87.9 | 89.5 | 88.5 | 88.0 | 87.8 | 86.2 | 84.8 | 83.6  | 80.7  | 139.9 |
| 40000 | 77.3 | 80.6 | 82.6 | 84.0 | 85.4 | 86.3 | 85.4 | 85.5 | 85.4 | 83.0 | 81.9 | 80.1  | 77.3  | 141.1 |
| 50000 | 73.2 | 76.8 | 78.9 | 80.5 | 82.0 | 83.8 | 81.7 | 81.2 | 82.3 | 80.1 | 78.9 | 77.0  | 73.2  | 142.2 |
| 63000 | 70.0 | 72.9 | 75.4 | 76.7 | 78.0 | 80.7 | 77.8 | 78.1 | 79.1 | 77.2 | 76.7 | 73.6  | 68.9  | 144.1 |
| 80000 | 63.2 | 68.8 | 71.9 | 72.8 | 73.7 | 76.8 | 73.7 | 73.9 | 75.1 | 73.9 | 73.0 | 69.1  | 62.1  | 146.9 |

CASPL 101.2 103.1 104.0 104.2 104.7 105.3 105.7 106.5 107.8 109.5 111.0 113.3 114.5 153.9  
 PNL 111.1 113.5 114.4 114.8 115.2 116.0 117.0 118.4 120.1 121.9 123.1 124.1 124.5  
 PNLT 111.9 113.5 114.4 114.8 115.2 116.0 118.2 118.4 120.1 121.9 123.1 124.1 124.5  
 DBA 185.3 190.1 193.3 194.0 195.0 198.0 195.0 195.2 196.3 194.9 194.1 190.4 184.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH208 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1627.7 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1465.6 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1405 TAPE = X1405F TEST PT NO = 1405 NC = AE058 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1405 X14051

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| FREQ  |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50    | 55.9 | 60.4 | 62.8 | 64.3 | 65.5 | 67.0 | 77.5 | 70.3 | 72.0 | 75.3 | 77.4 | 80.1 | 78.2 | 155.6 |
| 63    | 57.1 | 61.2 | 62.8 | 64.6 | 66.0 | 67.5 | 70.0 | 70.5 | 72.8 | 75.5 | 77.6 | 79.8 | 78.2 | 155.3 |
| 80    | 57.0 | 61.3 | 64.2 | 65.7 | 66.9 | 68.7 | 68.9 | 70.9 | 72.2 | 76.4 | 77.2 | 78.7 | 76.0 | 154.4 |
| 100   | 58.2 | 62.8 | 65.4 | 66.8 | 67.9 | 69.2 | 70.2 | 72.2 | 73.1 | 76.4 | 77.2 | 76.1 | 72.8 | 153.3 |
| 125   | 61.3 | 63.7 | 66.6 | 67.5 | 68.1 | 69.1 | 69.8 | 72.1 | 73.8 | 76.3 | 76.3 | 74.5 | 70.1 | 152.6 |
| 160   | 61.2 | 66.9 | 67.8 | 69.6 | 71.0 | 72.0 | 72.8 | 73.0 | 74.0 | 76.2 | 75.7 | 73.0 | 68.9 | 152.8 |
| 200   | 60.5 | 66.3 | 67.1 | 68.8 | 70.2 | 71.2 | 71.9 | 73.0 | 74.4 | 75.0 | 74.5 | 70.5 | 66.2 | 151.9 |
| 250   | 61.9 | 66.0 | 67.9 | 68.7 | 69.3 | 70.6 | 71.6 | 72.5 | 73.4 | 74.2 | 73.0 | 69.1 | 63.6 | 151.3 |
| 315   | 61.5 | 67.2 | 68.5 | 69.7 | 70.4 | 71.2 | 72.2 | 73.9 | 74.9 | 75.8 | 72.5 | 69.1 | 63.4 | 152.5 |
| 400   | 61.1 | 65.7 | 68.8 | 69.8 | 70.5 | 72.4 | 73.2 | 73.4 | 73.9 | 75.2 | 72.8 | 69.2 | 63.1 | 152.9 |
| 500   | 61.0 | 65.7 | 68.9 | 69.9 | 70.6 | 71.7 | 72.4 | 74.2 | 75.3 | 75.1 | 73.1 | 70.5 | 64.8 | 153.8 |
| 630   | 62.3 | 67.1 | 70.1 | 71.1 | 71.7 | 73.1 | 73.3 | 74.4 | 75.4 | 75.6 | 74.7 | 71.3 | 66.0 | 155.3 |
| 800   | 63.9 | 68.2 | 71.2 | 72.5 | 73.4 | 74.0 | 74.1 | 75.3 | 75.5 | 74.9 | 74.1 | 72.0 | 66.0 | 156.3 |
| 1000  | 64.3 | 69.2 | 71.1 | 71.8 | 72.1 | 73.3 | 73.1 | 74.8 | 75.3 | 73.8 | 72.0 | 69.4 | 64.8 | 156.0 |
| 1250  | 65.0 | 70.4 | 72.1 | 72.8 | 73.0 | 74.5 | 73.5 | 74.4 | 74.2 | 73.4 | 70.9 | 68.2 | 62.4 | 156.7 |
| 1600  | 66.2 | 69.8 | 73.2 | 73.4 | 73.1 | 74.1 | 73.4 | 73.9 | 73.3 | 70.9 | 68.1 | 64.8 | 57.7 | 157.0 |
| 2000  | 64.2 | 69.4 | 71.9 | 73.7 | 74.9 | 73.9 | 72.7 | 72.5 | 71.8 | 68.2 | 65.6 | 60.9 | 52.2 | 157.8 |
| 2500  | 60.5 | 65.0 | 69.5 | 72.1 | 74.0 | 74.1 | 71.9 | 70.6 | 69.1 | 64.7 | 62.2 | 56.0 | 44.5 | 158.5 |
| 3150  | 53.6 | 59.9 | 65.1 | 68.1 | 70.3 | 72.0 | 71.0 | 68.8 | 66.8 | 60.9 | 56.1 | 48.5 | 32.2 | 159.4 |
| 4000  | 41.1 | 50.2 | 55.6 | 59.4 | 62.1 | 64.1 | 62.7 | 60.9 | 58.3 | 52.9 | 45.3 | 33.8 | 10.5 | 157.5 |
| 5000  | 28.1 | 39.8 | 47.0 | 51.5 | 54.7 | 56.1 | 54.6 | 53.0 | 49.8 | 42.2 | 32.7 | 16.6 |      | 158.7 |
| 6300  | 6.2  | 21.7 | 31.2 | 37.2 | 41.2 | 43.7 | 40.9 | 38.0 | 34.6 | 25.0 | 11.9 |      |      | 159.8 |
| 8000  |      |      | 6.4  | 14.2 | 19.0 | 22.8 | 18.9 | 15.5 | 10.1 |      |      |      |      | 161.7 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 164.5 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 60000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 8ASPL | 74.7 | 79.4 | 81.9 | 83.1 | 84.0 | 84.9 | 85.6 | 85.8 | 86.4 | 87.3 | 87.0 | 86.6 | 83.7 | 171.2 |
| PNL   | 83.7 | 88.9 | 91.7 | 93.6 | 95.1 | 95.7 | 94.9 | 94.5 | 94.2 | 92.8 | 91.0 | 88.2 | 82.3 |       |
| PNLT  | 83.7 | 88.9 | 92.2 | 93.6 | 95.1 | 95.7 | 94.9 | 94.5 | 94.7 | 92.8 | 91.0 | 88.2 | 83.3 |       |
| DBA   | 73.4 | 78.1 | 80.9 | 82.1 | 83.0 | 83.6 | 82.9 | 83.4 | 83.4 | 82.4 | 80.6 | 77.7 | 72.2 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|          |          |           |            |          |                |        |         |          |             |              |            |              |
|----------|----------|-----------|------------|----------|----------------|--------|---------|----------|-------------|--------------|------------|--------------|
| VEHICLE  | = ADH208 | TEST DATE | = 08-16-82 | LOCAT    | = C41 ANECH CH | CONFIG | = 4     | MODEL    | = AX        | FLTVEL       | = 0. FPS   |              |
| IAPLHA   | = SB59   | IEGA      | = NO       | PWL AREA | = FULL SPHERE  | TAMB F | = 76.50 | PAMB HG  | = 29.45     | RELHUM       | = 82.8 PCT |              |
| WIND DIR | =        | DEG       |            | WIND VEL | =              | MPH    |         | EXT DIST | = 2400.0 FT | EXT CONFIG   | = SL       |              |
| FNIN1    | =        | LBS       | XNL        | =        | RPM            | XNH    | =       | RPM      | V8          | = 1627.7 FPS | AE8        | = 4.0 SQ IN  |
| FNRAMB   | =        | LBS       | XNLR       | =        | RPM            | XNHR   | =       | RPM      | V18         | = 1465.6 FPS | AE18       | = 20.4 SQ IN |

RUNPT = 82F-ZER-1405 TAPE = X14051 TEST PT NO = 1405 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1407 X1407C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| 50    | 80.5 | 78.3 | 74.1 | 77.2 | 80.2 | 75.6 | 74.5 | 80.1 | 76.1 | 79.4 | 82.0  | 82.0  | 84.9  | 121.2 |
| 63    | 88.4 | 88.0 | 80.5 | 83.8 | 87.1 | 84.0 | 84.9 | 86.3 | 83.7 | 87.3 | 82.2  | 81.9  | 87.3  | 127.6 |
| 80    | 80.7 | 83.7 | 81.0 | 81.3 | 81.6 | 83.5 | 84.4 | 84.3 | 84.5 | 84.8 | 84.7  | 88.1  | 90.8  | 126.4 |
| 100   | 81.0 | 85.5 | 81.8 | 83.2 | 84.7 | 84.5 | 84.7 | 86.6 | 85.8 | 87.6 | 80.0  | 93.2  | 95.8  | 129.5 |
| 125   | 78.7 | 82.2 | 84.0 | 84.8 | 85.6 | 85.7 | 86.6 | 86.5 | 86.7 | 88.3 | 82.7  | 97.1  | 99.3  | 131.9 |
| 160   | 79.7 | 76.7 | 81.2 | 82.0 | 82.9 | 83.0 | 86.9 | 84.0 | 84.7 | 87.5 | 93.4  | 97.1  | 101.3 | 132.2 |
| 200   | 81.8 | 80.6 | 80.9 | 81.9 | 83.0 | 83.9 | 87.0 | 88.2 | 88.9 | 89.9 | 94.3  | 99.0  | 103.2 | 134.1 |
| 250   | 78.0 | 83.8 | 81.8 | 82.6 | 83.5 | 85.6 | 87.5 | 88.9 | 89.8 | 93.6 | 99.3  | 103.2 | 105.9 | 137.3 |
| 315   | 82.6 | 82.7 | 81.9 | 84.1 | 86.3 | 86.7 | 89.8 | 89.7 | 91.4 | 95.0 | 99.6  | 104.3 | 107.0 | 138.3 |
| 400   | 78.5 | 81.8 | 83.3 | 84.3 | 85.4 | 86.0 | 87.2 | 89.8 | 92.5 | 96.8 | 100.7 | 105.4 | 106.8 | 139.3 |
| 500   | 79.5 | 82.0 | 83.6 | 84.4 | 85.2 | 86.3 | 89.2 | 90.3 | 93.3 | 97.1 | 101.0 | 105.2 | 106.6 | 138.9 |
| 630   | 80.2 | 82.7 | 84.5 | 85.3 | 86.1 | 87.2 | 88.1 | 90.3 | 92.7 | 97.8 | 100.4 | 104.1 | 104.8 | 138.0 |
| 800   | 81.2 | 83.5 | 85.7 | 86.3 | 86.9 | 88.0 | 89.4 | 91.3 | 93.7 | 98.1 | 100.5 | 101.9 | 101.8 | 136.9 |
| 1000  | 84.7 | 85.2 | 87.0 | 87.4 | 87.9 | 88.2 | 89.6 | 91.8 | 94.2 | 97.8 | 99.4  | 100.1 | 99.3  | 136.1 |
| 1250  | 84.8 | 88.8 | 87.8 | 89.1 | 90.5 | 91.8 | 92.2 | 93.4 | 94.8 | 98.4 | 99.3  | 99.2  | 98.5  | 136.5 |
| 1600  | 83.8 | 87.9 | 88.1 | 88.9 | 89.7 | 90.6 | 91.4 | 92.7 | 94.6 | 96.9 | 98.6  | 96.5  | 96.2  | 135.4 |
| 2000  | 86.0 | 88.2 | 89.1 | 89.1 | 89.1 | 90.2 | 91.4 | 92.7 | 94.3 | 96.6 | 96.6  | 95.5  | 94.0  | 134.7 |
| 2500  | 85.5 | 89.3 | 89.6 | 90.0 | 90.5 | 91.1 | 92.0 | 94.1 | 96.5 | 98.0 | 96.5  | 95.9  | 94.6  | 135.8 |
| 3150  | 86.1 | 89.2 | 90.4 | 90.5 | 90.6 | 92.1 | 93.3 | 94.2 | 96.3 | 98.6 | 97.9  | 96.6  | 96.1  | 136.5 |
| 4000  | 86.0 | 88.7 | 90.3 | 90.9 | 91.4 | 92.4 | 93.0 | 95.4 | 97.2 | 98.7 | 98.4  | 98.5  | 98.5  | 137.3 |
| 5000  | 88.0 | 90.5 | 92.1 | 92.1 | 92.1 | 93.0 | 93.9 | 95.8 | 98.2 | 99.3 | 100.4 | 100.7 | 101.2 | 138.8 |
| 6300  | 90.2 | 92.2 | 93.8 | 93.9 | 94.0 | 94.5 | 95.5 | 96.7 | 97.7 | 99.3 | 100.3 | 101.6 | 102.4 | 139.7 |
| 8000  | 91.8 | 94.3 | 95.4 | 94.5 | 93.6 | 94.6 | 94.3 | 96.2 | 98.1 | 98.4 | 99.7  | 100.7 | 102.1 | 139.9 |
| 10000 | 94.5 | 97.6 | 97.2 | 96.2 | 95.2 | 95.7 | 95.2 | 96.1 | 97.0 | 98.6 | 98.1  | 100.3 | 101.4 | 140.8 |
| 12500 | 95.6 | 96.9 | 98.7 | 97.6 | 96.5 | 96.3 | 94.8 | 96.0 | 96.3 | 96.4 | 96.2  | 97.8  | 99.3  | 141.3 |
| 16000 | 93.2 | 95.6 | 97.2 | 97.9 | 98.5 | 97.7 | 95.3 | 95.6 | 95.6 | 94.9 | 94.7  | 95.8  | 97.1  | 142.3 |
| 20000 | 91.3 | 92.4 | 94.7 | 96.1 | 97.4 | 98.0 | 95.8 | 94.4 | 94.1 | 92.4 | 92.8  | 92.9  | 94.1  | 142.7 |
| 25000 | 88.3 | 89.9 | 91.9 | 93.4 | 94.8 | 95.9 | 95.8 | 94.3 | 93.9 | 91.7 | 90.0  | 90.9  | 89.7  | 143.4 |
| 31500 | 81.7 | 84.8 | 87.3 | 88.3 | 89.4 | 91.2 | 90.0 | 89.5 | 90.0 | 87.7 | 85.8  | 85.6  | 84.4  | 141.6 |
| 40000 | 78.6 | 81.9 | 84.1 | 85.7 | 87.2 | 88.3 | 87.1 | 86.7 | 86.9 | 85.0 | 82.7  | 82.4  | 81.3  | 142.8 |
| 50000 | 75.7 | 78.6 | 81.7 | 82.9 | 84.0 | 85.8 | 84.0 | 83.5 | 84.3 | 82.1 | 79.4  | 79.7  | 79.4  | 144.3 |
| 63000 | 71.3 | 74.7 | 78.4 | 79.7 | 81.0 | 82.4 | 80.1 | 80.6 | 81.4 | 79.4 | 78.0  | 76.9  | 79.1  | 146.5 |
| 80000 | 65.4 | 71.1 | 75.1 | 76.3 | 77.5 | 78.8 | 76.2 | 75.7 | 77.3 | 76.4 | 75.0  | 72.8  | 77.6  | 149.7 |

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OASPL 102.6 104.9 105.9 106.0 106.3 106.8 107.0 107.5 108.9 110.7 112.2 114.5 115.9 155.9  
PNL 112.2 114.6 115.5 115.8 116.0 116.7 118.0 119.3 121.1 123.1 124.2 125.3 126.1  
PNLT 112.9 114.6 115.5 115.8 116.0 116.7 119.3 119.3 121.1 123.1 124.2 125.3 126.1  
DBA 98.9 101.7 102.5 102.5 102.5 103.4 104.4 105.7 107.7 109.8 110.8 112.0 112.7

NAS<sup>3</sup> GJAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH209 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1525.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1407 TAPE = X1407C TEST PT NO = 1407 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-1407 X1407F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 80.5  | 78.3  | 74.1  | 77.2  | 80.2  | 75.6  | 74.5  | 80.1  | 76.1  | 79.4  | 82.0  | 82.0  | 84.9  | 121.2 |
| 63    | 88.4  | 88.0  | 80.5  | 83.8  | 87.1  | 84.0  | 84.9  | 86.3  | 83.7  | 87.3  | 82.2  | 81.9  | 87.3  | 127.6 |
| 80    | 80.7  | 83.7  | 81.0  | 81.3  | 81.6  | 83.5  | 84.4  | 84.3  | 84.5  | 84.8  | 84.7  | 88.1  | 90.8  | 126.4 |
| 100   | 81.0  | 85.5  | 81.8  | 83.2  | 84.7  | 84.5  | 84.7  | 86.6  | 85.8  | 87.6  | 90.0  | 93.2  | 95.8  | 129.5 |
| 125   | 78.7  | 82.2  | 84.0  | 84.8  | 85.6  | 85.7  | 86.6  | 86.5  | 86.7  | 88.3  | 92.7  | 97.1  | 99.3  | 131.9 |
| 160   | 79.7  | 76.7  | 81.2  | 82.0  | 82.9  | 83.0  | 86.9  | 84.0  | 84.7  | 87.5  | 93.4  | 97.1  | 101.3 | 132.2 |
| 200   | 81.8  | 80.6  | 80.9  | 81.9  | 83.0  | 83.9  | 87.0  | 88.2  | 88.9  | 89.9  | 94.3  | 99.0  | 103.2 | 134.1 |
| 250   | 78.0  | 83.8  | 81.8  | 82.6  | 83.5  | 85.6  | 87.5  | 88.9  | 89.8  | 93.6  | 99.3  | 103.2 | 105.9 | 137.3 |
| 315   | 82.6  | 82.7  | 81.9  | 84.1  | 86.3  | 86.7  | 89.8  | 89.7  | 91.4  | 95.0  | 99.6  | 104.3 | 107.0 | 138.3 |
| 400   | 78.6  | 81.8  | 83.3  | 84.3  | 85.4  | 86.0  | 87.2  | 89.8  | 92.5  | 96.8  | 100.7 | 105.4 | 106.8 | 139.3 |
| 500   | 79.5  | 82.0  | 83.6  | 84.4  | 85.2  | 86.3  | 89.2  | 90.3  | 93.3  | 97.1  | 101.0 | 105.2 | 106.6 | 138.9 |
| 630   | 80.2  | 82.7  | 84.5  | 85.3  | 86.1  | 87.2  | 88.1  | 90.3  | 92.7  | 97.8  | 100.4 | 104.1 | 104.8 | 138.0 |
| 800   | 81.2  | 83.5  | 85.7  | 86.3  | 86.9  | 88.0  | 89.4  | 91.3  | 93.7  | 98.1  | 100.5 | 101.9 | 101.8 | 136.9 |
| 1000  | 84.7  | 85.2  | 87.0  | 87.4  | 87.9  | 88.2  | 89.6  | 91.8  | 94.2  | 97.8  | 99.4  | 100.1 | 99.3  | 136.1 |
| 1250  | 84.8  | 88.8  | 87.8  | 89.1  | 90.5  | 91.8  | 92.2  | 93.4  | 94.8  | 98.4  | 99.3  | 99.2  | 98.5  | 136.5 |
| 1600  | 83.8  | 87.9  | 88.1  | 88.9  | 89.7  | 90.6  | 91.4  | 92.7  | 94.6  | 96.9  | 98.6  | 96.5  | 96.2  | 135.4 |
| 2000  | 86.0  | 88.2  | 89.1  | 89.1  | 89.1  | 90.2  | 91.4  | 92.7  | 94.3  | 96.6  | 96.6  | 95.5  | 94.0  | 134.7 |
| 2500  | 85.5  | 89.3  | 89.6  | 90.0  | 90.5  | 91.1  | 92.0  | 94.1  | 96.5  | 98.0  | 96.5  | 95.9  | 94.6  | 135.8 |
| 3150  | 86.1  | 89.2  | 90.4  | 90.5  | 90.6  | 92.1  | 93.3  | 94.2  | 96.3  | 98.6  | 97.9  | 96.6  | 96.1  | 136.5 |
| 4000  | 86.0  | 88.7  | 90.3  | 90.9  | 91.4  | 92.4  | 93.0  | 95.4  | 97.2  | 98.7  | 98.4  | 98.5  | 98.5  | 137.3 |
| 5000  | 88.0  | 90.5  | 92.1  | 92.1  | 92.1  | 93.0  | 93.9  | 95.8  | 98.2  | 99.3  | 100.4 | 100.7 | 101.2 | 138.8 |
| 6300  | 90.2  | 92.2  | 93.8  | 93.9  | 94.0  | 94.5  | 95.5  | 96.7  | 97.7  | 99.3  | 100.3 | 101.6 | 102.4 | 139.7 |
| 8000  | 91.8  | 94.3  | 95.4  | 94.5  | 93.6  | 94.6  | 94.3  | 96.2  | 98.1  | 98.4  | 99.7  | 100.7 | 102.1 | 139.9 |
| 10000 | 94.5  | 97.6  | 97.2  | 96.2  | 95.2  | 95.7  | 95.2  | 96.1  | 97.0  | 98.6  | 98.1  | 100.3 | 101.4 | 140.8 |
| 12500 | 95.6  | 96.9  | 98.7  | 97.6  | 96.5  | 96.3  | 94.8  | 96.0  | 96.3  | 96.4  | 96.2  | 97.8  | 99.3  | 141.3 |
| 16000 | 93.2  | 95.6  | 97.2  | 97.9  | 98.5  | 97.7  | 95.3  | 95.6  | 95.6  | 94.9  | 94.7  | 95.8  | 97.1  | 142.3 |
| 20000 | 91.3  | 92.4  | 94.7  | 95.1  | 97.4  | 98.0  | 95.8  | 94.4  | 94.1  | 92.4  | 92.8  | 92.9  | 94.1  | 142.7 |
| 25000 | 88.3  | 89.9  | 91.9  | 93.4  | 94.8  | 95.9  | 95.8  | 94.3  | 93.9  | 91.7  | 90.0  | 90.9  | 89.7  | 143.4 |
| 31500 | 81.7  | 84.8  | 87.3  | 88.3  | 89.4  | 91.2  | 90.0  | 89.5  | 90.0  | 87.7  | 85.8  | 85.6  | 84.4  | 141.6 |
| 40000 | 78.6  | 81.9  | 84.1  | 85.7  | 87.2  | 88.3  | 87.1  | 86.7  | 86.9  | 85.0  | 82.7  | 82.4  | 81.3  | 142.8 |
| 50000 | 75.7  | 78.6  | 81.7  | 82.9  | 84.0  | 85.8  | 84.0  | 83.5  | 84.3  | 82.1  | 79.4  | 79.7  | 79.4  | 144.3 |
| 63000 | 71.3  | 74.7  | 78.4  | 79.7  | 81.0  | 82.4  | 80.1  | 80.6  | 81.4  | 79.4  | 78.0  | 76.9  | 79.1  | 146.5 |
| 80000 | 65.4  | 71.1  | 75.1  | 76.3  | 77.5  | 78.8  | 76.2  | 75.7  | 77.3  | 76.4  | 75.0  | 72.8  | 77.6  | 149.7 |
| GASPL | 102.6 | 104.9 | 105.9 | 106.0 | 106.3 | 106.8 | 107.0 | 107.5 | 108.9 | 110.7 | 112.2 | 114.5 | 115.9 | 155.9 |
| PNL   | 112.2 | 114.6 | 115.5 | 115.8 | 116.0 | 116.7 | 118.0 | 119.3 | 121.1 | 123.1 | 124.2 | 125.3 | 126.1 |       |
| PNLT  | 112.9 | 114.6 | 115.5 | 115.8 | 116.0 | 116.7 | 119.3 | 119.3 | 121.1 | 123.1 | 124.2 | 125.3 | 126.1 |       |
| DBA   | 187.2 | 192.2 | 196.2 | 197.4 | 198.5 | 199.9 | 197.4 | 197.1 | 198.5 | 197.3 | 195.9 | 194.0 | 198.3 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH209 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.2 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1525.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-1407 TAPE = X1407F TEST PT NO = 1407 NC = AE058 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1407 X14071

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 56.6 | 61.4 | 64.0 | 65.8 | 67.3 | 68.0 | 79.0 | 71.3 | 73.3 | 76.5 | 78.9 | 81.4 | 79.4 | 156.9 |
| 63    | 57.6 | 61.7 | 64.3 | 65.8 | 67.0 | 68.3 | 71.0 | 71.8 | 74.0 | 76.8 | 79.1 | 81.1 | 79.2 | 156.5 |
| 80    | 58.2 | 62.3 | 65.2 | 66.7 | 67.9 | 69.2 | 69.9 | 71.7 | 73.4 | 77.4 | 78.5 | 80.0 | 77.2 | 155.6 |
| 100   | 59.2 | 63.0 | 66.4 | 67.7 | 68.7 | 69.9 | 71.2 | 72.7 | 74.4 | 77.6 | 78.4 | 77.6 | 74.1 | 154.5 |
| 125   | 62.6 | 64.7 | 67.6 | 68.7 | 69.6 | 70.1 | 71.3 | 73.1 | 74.8 | 77.3 | 77.3 | 75.7 | 71.4 | 153.7 |
| 160   | 62.5 | 68.1 | 68.3 | 70.3 | 72.0 | 73.5 | 73.8 | 74.5 | 75.3 | 77.7 | 77.0 | 74.5 | 70.2 | 154.1 |
| 200   | 61.2 | 67.0 | 68.4 | 69.9 | 71.2 | 72.2 | 72.9 | 73.7 | 74.9 | 76.0 | 76.0 | 71.5 | 67.5 | 153.0 |
| 250   | 63.1 | 67.0 | 69.1 | 69.9 | 70.3 | 71.6 | 72.6 | 73.5 | 74.4 | 75.5 | 73.8 | 70.1 | 64.6 | 152.3 |
| 315   | 62.2 | 67.7 | 69.3 | 70.5 | 71.4 | 72.2 | 73.0 | 74.6 | 76.2 | 76.5 | 73.2 | 69.9 | 64.4 | 153.4 |
| 400   | 62.3 | 67.2 | 69.8 | 70.7 | 71.2 | 72.9 | 73.9 | 74.4 | 75.6 | 76.7 | 74.1 | 69.9 | 64.8 | 154.1 |
| 500   | 61.8 | 66.4 | 69.4 | 70.8 | 71.8 | 73.0 | 73.4 | 75.2 | 76.3 | 76.4 | 74.1 | 71.2 | 66.3 | 154.9 |
| 630   | 63.3 | 67.8 | 70.8 | 71.7 | 72.2 | 73.3 | 74.1 | 75.4 | 76.9 | 76.6 | 75.7 | 72.8 | 68.0 | 156.4 |
| 800   | 64.9 | 69.2 | 72.2 | 73.2 | 73.9 | 74.5 | 75.4 | 76.0 | 76.0 | 76.2 | 75.1 | 73.0 | 68.0 | 157.3 |
| 1000  | 66.1 | 71.0 | 73.6 | 73.7 | 73.3 | 74.6 | 74.1 | 75.3 | 76.3 | 75.0 | 74.0 | 71.4 | 66.6 | 157.5 |
| 1250  | 68.3 | 73.9 | 75.1 | 75.2 | 74.8 | 75.5 | 74.8 | 75.1 | 75.0 | 74.9 | 71.9 | 70.2 | 64.4 | 158.4 |
| 1600  | 68.5 | 72.6 | 76.2 | 76.3 | 75.8 | 75.8 | 74.1 | 74.7 | 73.8 | 72.1 | 69.1 | 66.3 | 60.0 | 158.9 |
| 2000  | 65.2 | 70.6 | 74.4 | 76.3 | 77.6 | 77.1 | 74.4 | 74.0 | 72.8 | 70.0 | 66.6 | 62.7 | 54.7 | 159.9 |
| 2500  | 61.5 | 66.2 | 71.0 | 73.8 | 76.0 | 76.8 | 74.4 | 72.1 | 70.4 | 66.2 | 63.0 | 57.0 | 46.8 | 160.3 |
| 3150  | 55.1 | 61.4 | 66.3 | 69.6 | 72.0 | 73.5 | 73.0 | 70.5 | 68.3 | 63.2 | 56.8 | 50.0 | 34.0 | 161.0 |
| 4000  | 42.3 | 51.5 | 57.8 | 61.3 | 63.6 | 65.9 | 64.2 | 62.4 | 60.6 | 54.4 | 46.3 | 35.8 | 14.2 | 159.2 |
| 5000  | 29.3 | 41.0 | 48.5 | 53.2 | 56.4 | 58.1 | 56.4 | 54.2 | 51.3 | 44.2 | 33.5 | 18.9 |      | 160.4 |
| 6300  | 8.7  | 23.5 | 33.9 | 39.6 | 43.2 | 45.7 | 43.1 | 40.2 | 36.6 | 27.0 | 12.4 |      |      | 161.9 |
| 8000  |      |      | 9.4  | 17.2 | 22.0 | 24.6 | 21.1 | 18.0 | 12.3 |      |      |      |      | 164.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 167.3 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| GASPL | 76.3 | 81.1 | 83.8 | 84.8 | 85.6 | 86.3 | 86.8 | 86.7 | 87.5 | 88.5 | 88.2 | 87.9 | 84.9 | 173.2 |
| PNL   | 85.4 | 90.3 | 93.7 | 95.5 | 96.8 | 97.7 | 96.6 | 95.7 | 95.3 | 94.2 | 92.1 | 89.4 | 84.1 |       |
| PNLT  | 85.4 | 90.3 | 94.3 | 95.5 | 96.8 | 97.7 | 96.6 | 95.7 | 95.9 | 94.2 | 92.1 | 89.4 | 84.1 |       |
| DBA   | 75.2 | 80.2 | 83.1 | 84.1 | 84.9 | 85.4 | 84.3 | 84.4 | 84.4 | 83.7 | 81.8 | 79.1 | 74.0 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH209 TEST DATE = 08-16-82 LOCAT = 241 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.2 FPS AE8 = 4.0 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1525.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1407 TAPE = X14071 TEST PT NO = 1407 NC = AE050 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1408 X1408C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 82.5 | 80.6 | 74.8 | 77.6 | 78.5 | 75.6 | 76.5 | 79.4 | 77.8 | 80.2 | 84.3 | 84.5 | 94.9 | 125.0 |
| 63    | 88.7 | 87.0 | 81.0 | 83.5 | 86.6 | 81.0 | 83.4 | 85.8 | 83.2 | 84.5 | 82.4 | 83.9 | 93.8 | 127.7 |
| 80    | 79.7 | 83.7 | 81.5 | 82.0 | 81.6 | 83.0 | 85.4 | 84.8 | 85.0 | 85.6 | 84.7 | 86.6 | 93.3 | 126.9 |
| 100   | 78.2 | 83.0 | 79.3 | 80.6 | 81.9 | 81.8 | 83.4 | 84.1 | 83.0 | 84.1 | 86.2 | 89.4 | 96.1 | 127.5 |
| 125   | 76.7 | 78.9 | 80.5 | 81.2 | 81.8 | 81.5 | 84.1 | 83.2 | 82.7 | 84.3 | 88.9 | 93.3 | 96.8 | 128.6 |
| 160   | 79.4 | 75.7 | 77.5 | 76.8 | 79.1 | 78.2 | 80.4 | 80.0 | 80.7 | 83.8 | 88.9 | 92.6 | 97.3 | 128.6 |
| 200   | 82.1 | 78.4 | 75.6 | 76.4 | 78.8 | 78.4 | 85.3 | 82.9 | 83.4 | 85.2 | 88.3 | 93.3 | 97.7 | 128.8 |
| 250   | 74.3 | 75.3 | 75.1 | 76.4 | 76.5 | 78.3 | 82.2 | 82.6 | 83.1 | 86.9 | 92.3 | 96.2 | 98.1 | 130.1 |
| 315   | 79.9 | 78.4 | 76.2 | 80.2 | 79.3 | 78.7 | 86.3 | 85.0 | 84.4 | 88.3 | 91.9 | 96.8 | 97.7 | 130.6 |
| 400   | 73.2 | 75.3 | 75.8 | 76.3 | 77.4 | 78.3 | 90.7 | 82.1 | 84.8 | 89.1 | 93.2 | 95.9 | 95.1 | 130.3 |
| 500   | 73.5 | 75.0 | 76.3 | 77.1 | 77.7 | 79.1 | 82.9 | 82.8 | 84.8 | 89.6 | 92.8 | 94.7 | 93.1 | 128.9 |
| 630   | 73.7 | 76.0 | 76.5 | 77.5 | 78.6 | 79.2 | 81.1 | 83.0 | 84.2 | 90.6 | 92.7 | 93.4 | 89.3 | 128.3 |
| 800   | 74.2 | 76.5 | 77.3 | 77.8 | 78.9 | 80.2 | 82.1 | 84.0 | 86.0 | 90.6 | 92.7 | 90.4 | 86.5 | 127.8 |
| 1000  | 77.4 | 78.0 | 79.0 | 79.3 | 80.1 | 81.5 | 82.6 | 84.3 | 86.8 | 90.3 | 91.2 | 88.6 | 84.5 | 127.4 |
| 1250  | 82.0 | 86.8 | 85.3 | 86.2 | 85.7 | 86.8 | 87.7 | 88.4 | 88.8 | 92.2 | 91.8 | 86.5 | 83.5 | 130.1 |
| 1600  | 81.5 | 83.7 | 84.6 | 83.7 | 84.0 | 84.8 | 86.2 | 87.0 | 88.4 | 91.4 | 91.3 | 84.2 | 82.0 | 128.9 |
| 2000  | 82.3 | 80.9 | 82.6 | 82.7 | 83.3 | 83.9 | 85.9 | 86.7 | 88.1 | 91.1 | 89.6 | 83.2 | 81.0 | 128.2 |
| 2500  | 81.8 | 83.5 | 83.8 | 84.1 | 85.0 | 86.1 | 86.3 | 88.9 | 89.7 | 92.3 | 88.8 | 82.6 | 79.4 | 129.3 |
| 3150  | 83.9 | 84.4 | 85.0 | 85.0 | 85.6 | 86.9 | 88.8 | 88.7 | 89.8 | 92.4 | 90.2 | 82.1 | 79.6 | 130.0 |
| 4000  | 84.1 | 84.5 | 86.1 | 85.5 | 86.5 | 87.4 | 88.3 | 90.1 | 91.3 | 92.5 | 89.2 | 82.8 | 79.3 | 130.6 |
| 5000  | 85.8 | 86.8 | 87.0 | 87.6 | 88.6 | 88.9 | 90.0 | 91.1 | 92.8 | 92.9 | 91.5 | 84.5 | 80.5 | 132.2 |
| 6300  | 87.5 | 89.4 | 89.2 | 89.3 | 90.3 | 90.8 | 91.3 | 93.0 | 93.3 | 92.9 | 91.2 | 85.7 | 81.7 | 133.6 |
| 8000  | 90.2 | 92.3 | 91.1 | 90.1 | 89.5 | 90.1 | 91.3 | 92.6 | 93.1 | 93.1 | 91.4 | 86.4 | 83.3 | 134.3 |
| 10000 | 93.3 | 96.0 | 94.8 | 93.1 | 92.0 | 92.0 | 92.5 | 93.0 | 92.9 | 93.2 | 91.2 | 87.4 | 84.9 | 136.6 |
| 12500 | 93.7 | 96.4 | 97.2 | 96.4 | 94.5 | 94.0 | 92.8 | 93.2 | 93.1 | 91.2 | 89.7 | 86.5 | 84.5 | 138.6 |
| 16000 | 91.7 | 95.9 | 96.0 | 96.9 | 96.7 | 95.7 | 94.0 | 93.6 | 92.4 | 90.1 | 88.5 | 85.0 | 82.0 | 140.2 |
| 20000 | 90.1 | 92.8 | 93.9 | 95.5 | 96.0 | 96.2 | 95.1 | 93.5 | 91.8 | 89.5 | 87.5 | 83.4 | 80.3 | 141.2 |
| 25000 | 87.3 | 90.9 | 91.4 | 92.7 | 93.8 | 95.4 | 95.6 | 94.6 | 93.4 | 89.9 | 85.9 | 82.6 | 77.8 | 142.7 |
| 31500 | 81.0 | 85.8 | 86.9 | 88.2 | 88.7 | 90.3 | 90.5 | 90.4 | 89.9 | 86.6 | 82.8 | 78.4 | 72.1 | 141.3 |
| 40000 | 77.8 | 82.6 | 84.1 | 85.1 | 86.0 | 87.6 | 87.5 | 87.4 | 87.6 | 83.9 | 81.0 | 76.4 | 70.2 | 142.5 |
| 50000 | 73.7 | 79.1 | 80.4 | 81.3 | 83.2 | 84.1 | 83.6 | 82.7 | 83.3 | 80.2 | 76.8 | 72.8 | 66.4 | 143.1 |
| 63000 | 68.9 | 74.6 | 76.6 | 76.0 | 78.8 | 80.4 | 78.6 | 80.2 | 79.6 | 76.2 | 73.3 | 68.4 | 61.0 | 144.4 |
| 80000 | 61.0 | 68.9 | 70.2 | 69.5 | 72.3 | 74.7 | 72.8 | 72.9 | 73.4 | 70.6 | 67.5 | 60.9 | 52.4 | 145.0 |

GASPL 101.0 103.5 103.5 103.7 103.7 103.9 104.2 104.1 104.2 104.9 104.8 105.1 106.9 152.7  
PNL 109.5 111.2 110.8 110.9 111.6 112.1 113.7 114.6 115.4 117.1 116.3 113.2 113.1  
PNLT 110.6 113.2 112.0 112.5 112.8 113.3 115.1 114.6 115.4 117.1 116.3 113.2 113.1  
DEA 96.6 98.6 98.2 97.7 98.0 98.6 99.9 100.9 101.8 103.6 102.8 100.4 99.0

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = A5H235 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = 3B59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VB = 1640.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1533.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1408 TAPE = X1408C TEST PT NO = 1408 NC = AE058 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1408 X1408F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|-------|
| 50    |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 63    |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 80    |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 100   |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 125   |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 160   |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 200   |      |       |       |       |       |      |      |      |      |      |      |      |      |       |
| 250   | 80.1 | 80.2  | 78.9  | 79.0  | 77.7  | 78.3 | 80.3 | 79.0 | 81.0 | 83.9 | 87.0 | 92.4 | 95.1 | 127.0 |
| 315   | 80.1 | 80.2  | 78.9  | 79.0  | 80.6  | 78.9 | 85.0 | 82.2 | 81.6 | 85.0 | 88.8 | 92.2 | 93.9 | 127.4 |
| 400   | 86.0 | 83.3  | 79.8  | 82.6  | 79.1  | 78.5 | 89.4 | 79.3 | 81.9 | 85.9 | 88.8 | 91.9 | 93.6 | 128.2 |
| 500   | 80.0 | 81.0  | 80.3  | 79.5  | 79.5  | 79.4 | 81.7 | 80.2 | 81.6 | 87.3 | 89.3 | 91.7 | 92.0 | 126.9 |
| 630   | 80.8 | 81.2  | 81.2  | 80.5  | 80.5  | 79.6 | 80.0 | 80.5 | 83.9 | 87.9 | 90.2 | 90.3 | 92.2 | 127.1 |
| 800   | 81.1 | 82.2  | 81.4  | 81.0  | 80.9  | 80.8 | 81.1 | 81.6 | 85.1 | 88.2 | 89.4 | 89.9 | 92.8 | 127.4 |
| 1000  | 81.8 | 82.9  | 82.3  | 81.4  | 82.1  | 82.1 | 81.7 | 82.0 | 89.2 | 92.0 | 91.8 | 89.4 | 93.3 | 129.2 |
| 1250  | 83.9 | 83.6  | 83.6  | 82.6  | 87.7  | 87.6 | 88.0 | 87.9 | 88.9 | 91.8 | 92.2 | 88.3 | 93.1 | 130.4 |
| 1600  | 87.7 | 91.8  | 89.5  | 89.3  | 86.1  | 85.9 | 86.6 | 86.6 | 89.0 | 91.9 | 91.0 | 87.8 | 92.6 | 131.3 |
| 2000  | 87.2 | 88.7  | 88.8  | 86.3  | 85.7  | 85.2 | 86.6 | 86.6 | 90.4 | 92.8 | 90.1 | 87.4 | 91.7 | 130.8 |
| 2500  | 87.9 | 86.0  | 86.9  | 86.1  | 87.8  | 87.7 | 87.2 | 88.7 | 91.1 | 93.5 | 92.0 | 87.5 | 92.6 | 131.5 |
| 3150  | 88.8 | 89.8  | 89.1  | 88.1  | 88.7  | 88.9 | 90.1 | 89.0 | 93.2 | 94.1 | 91.5 | 88.5 | 92.6 | 132.7 |
| 4000  | 90.4 | 90.4  | 90.0  | 89.1  | 90.2  | 90.0 | 90.3 | 91.1 | 94.9 | 94.7 | 94.0 | 90.5 | 94.1 | 134.1 |
| 5000  | 91.4 | 91.1  | 91.8  | 90.2  | 92.7  | 91.9 | 92.3 | 92.2 | 96.2 | 95.7 | 94.7 | 92.6 | 95.9 | 135.7 |
| 6300  | 93.3 | 93.5  | 92.8  | 92.5  | 94.4  | 93.8 | 93.8 | 94.6 | 96.4 | 96.3 | 95.1 | 93.2 | 97.0 | 137.2 |
| 8000  | 94.7 | 95.8  | 94.8  | 93.9  | 93.0  | 93.1 | 93.7 | 94.4 | 94.5 | 94.4 | 92.6 | 91.7 | 96.1 | 137.2 |
| 10000 | 95.0 | 96.7  | 95.0  | 93.5  | 95.5  | 95.0 | 94.1 | 93.3 | 94.5 | 92.2 | 90.9 | 90.7 | 95.7 | 138.0 |
| 12500 | 98.4 | 100.5 | 98.6  | 96.3  | 98.1  | 97.0 | 94.2 | 93.2 | 94.4 | 91.5 | 90.2 | 89.8 | 93.7 | 140.9 |
| 16000 | 97.6 | 100.1 | 100.5 | 99.2  | 100.7 | 98.7 | 95.4 | 93.6 | 94.2 | 91.3 | 89.7 | 88.6 | 92.4 | 143.4 |
| 20000 | 97.6 | 101.1 | 100.4 | 100.2 | 100.0 | 99.2 | 96.5 | 93.4 | 97.1 | 93.6 | 90.5 | 90.6 | 92.8 | 145.7 |
| 25000 | 95.4 | 97.4  | 97.6  | 98.2  | 97.9  | 98.4 | 97.1 | 95.0 | 95.2 | 91.8 | 88.7 | 87.8 | 89.2 | 146.3 |
| 31500 | 91.8 | 94.7  | 94.3  | 94.7  | 92.7  | 93.3 | 92.5 | 91.5 | 93.8 | 90.0 | 87.9 | 86.9 | 88.4 | 145.8 |
| 40000 | 84.7 | 88.8  | 89.0  | 89.3  | 90.1  | 90.6 | 89.5 | 88.6 | 90.2 | 87.2 | 84.7 | 84.3 | 85.5 | 145.9 |
| 50000 | 81.1 | 85.2  | 85.8  | 85.8  | 87.8  | 87.1 | 85.7 | 84.0 | 86.7 | 83.1 | 80.7 | 79.0 | 79.0 | 146.7 |
| 63000 | 78.6 | 83.0  | 82.9  | 82.2  | 83.4  | 83.4 | 80.6 | 81.2 | 82.0 | 78.9 | 76.2 | 72.7 | 71.1 | 148.3 |
| 80000 | 72.6 | 77.0  | 77.6  | 75.4  | 76.9  | 77.7 | 74.8 | 73.8 | 72.2 | 69.1 | 66.4 | 62.9 | 61.3 | 148.5 |

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OASPL 105.8 107.9 107.3 106.6 107.2 106.6 105.3 104.3 106.3 105.8 104.7 103.9 107.1 156.1  
 PNL 113.6 114.1 113.4 112.7 113.9 113.5 114.0 114.2 116.8 117.4 116.7 115.0 118.5  
 PNLT 114.6 116.0 114.5 114.3 115.1 114.7 115.3 115.4 116.6 117.4 116.7 115.0 118.5  
 DBA 194.4 198.7 199.1 197.5 198.9 199.4 196.7 196.1 195.8 192.7 190.0 186.9 185.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH235 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1640.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1533.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1408 TAPE = X1408F TEST PT NO = 1408 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1408 X14081

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 63    | 64.1 | 63.0 | 60.6 | 64.1 | 61.0 | 60.6 | 71.2 | 60.8 | 62.6 | 65.6 | 66.9 | 67.9 | 66.3 | 145.8 |
| 80    | 58.1 | 60.7 | 61.1 | 61.0 | 61.4 | 61.4 | 63.6 | 61.6 | 62.4 | 66.9 | 67.4 | 67.7 | 64.6 | 144.5 |
| 100   | 58.9 | 60.9 | 61.9 | 61.9 | 62.4 | 61.6 | 61.8 | 61.9 | 64.6 | 67.5 | 68.2 | 66.1 | 64.6 | 144.7 |
| 125   | 59.1 | 61.8 | 62.0 | 62.3 | 62.7 | 62.7 | 62.9 | 63.0 | 65.7 | 67.8 | 67.4 | 65.7 | 65.1 | 144.9 |
| 160   | 59.7 | 62.4 | 62.9 | 62.7 | 63.8 | 64.0 | 63.4 | 63.3 | 69.8 | 71.4 | 69.7 | 65.0 | 65.4 | 146.8 |
| 200   | 61.6 | 62.9 | 64.0 | 63.8 | 69.3 | 69.4 | 69.6 | 69.1 | 69.3 | 71.1 | 69.9 | 63.6 | 64.8 | 148.0 |
| 250   | 65.2 | 70.9 | 69.7 | 70.3 | 67.6 | 67.5 | 68.1 | 67.6 | 69.3 | 71.0 | 68.4 | 62.8 | 63.9 | 148.9 |
| 315   | 64.3 | 67.6 | 68.8 | 67.7 | 66.9 | 66.6 | 67.9 | 67.4 | 70.4 | 71.6 | 67.2 | 62.0 | 62.3 | 148.4 |
| 400   | 64.6 | 64.5 | 66.6 | 66.6 | 68.8 | 68.8 | 68.1 | 69.2 | 70.8 | 72.0 | 68.7 | 61.6 | 62.4 | 149.0 |
| 500   | 65.0 | 67.8 | 68.4 | 68.3 | 69.4 | 69.7 | 70.8 | 69.2 | 72.5 | 72.1 | 67.7 | 61.9 | 61.4 | 150.3 |
| 630   | 66.1 | 68.1 | 69.1 | 69.0 | 70.5 | 70.6 | 70.7 | 71.0 | 73.9 | 72.4 | 69.7 | 63.2 | 61.9 | 151.7 |
| 800   | 66.7 | 68.4 | 70.5 | 69.8 | 72.8 | 72.1 | 72.4 | 71.8 | 74.9 | 73.0 | 69.9 | 64.7 | 62.7 | 153.3 |
| 1000  | 68.0 | 70.5 | 71.2 | 71.8 | 74.2 | 73.9 | 73.6 | 74.0 | 74.8 | 73.2 | 69.8 | 64.5 | 62.6 | 154.8 |
| 1250  | 69.0 | 72.4 | 72.9 | 73.1 | 72.7 | 73.0 | 73.4 | 73.6 | 72.7 | 71.0 | 66.9 | 62.4 | 60.6 | 154.8 |
| 1600  | 68.8 | 73.0 | 73.0 | 72.5 | 75.1 | 74.8 | 73.7 | 72.3 | 72.4 | 68.4 | 64.7 | 60.6 | 58.7 | 155.6 |
| 2000  | 71.3 | 76.2 | 76.1 | 75.0 | 77.4 | 76.5 | 73.5 | 71.9 | 71.9 | 67.2 | 63.1 | 58.3 | 54.4 | 158.5 |
| 2500  | 69.6 | 75.2 | 77.6 | 77.6 | 79.9 | 78.1 | 74.6 | 72.0 | 71.3 | 66.4 | 61.6 | 55.5 | 50.1 | 161.0 |
| 3150  | 67.7 | 74.9 | 76.6 | 77.9 | 78.6 | 78.1 | 75.1 | 71.2 | 73.3 | 67.5 | 60.6 | 54.7 | 45.5 | 163.3 |
| 4000  | 62.2 | 68.8 | 72.0 | 74.4 | 75.1 | 75.9 | 74.4 | 71.2 | 69.5 | 63.2 | 55.5 | 46.9 | 33.6 | 163.9 |
| 5000  | 52.4 | 61.4 | 64.9 | 67.6 | 67.0 | 67.9 | 66.8 | 64.4 | 64.4 | 56.7 | 48.5 | 37.1 | 18.3 | 163.4 |
| 6300  | 35.4 | 47.9 | 53.3 | 56.8 | 59.3 | 60.4 | 58.8 | 56.1 | 54.5 | 46.3 | 35.4 | 20.7 |      | 163.5 |
| 8000  | 14.1 | 30.1 | 38.0 | 42.5 | 46.9 | 47.1 | 44.9 | 40.8 | 39.0 | 28.0 | 13.7 |      |      | 164.3 |
| 10000 |      | 3.1  | 13.8 | 19.6 | 24.4 | 25.6 | 21.6 | 18.7 | 12.9 |      |      |      |      | 165.9 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      | 166.1 |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| GASPL | 79.0 | 83.3 | 84.4 | 84.7 | 86.2 | 85.6 | 84.4 | 83.0 | 84.2 | 83.1 | 80.4 | 76.4 | 75.4 | 173.7 |
| PNL   | 88.9 | 94.6 | 96.2 | 97.2 | 98.2 | 97.9 | 96.0 | 93.7 | 94.7 | 91.0 | 86.1 | 80.4 | 78.0 |       |
| PNLT  | 88.9 | 95.6 | 96.8 | 97.9 | 98.8 | 98.5 | 96.7 | 94.4 | 95.3 | 91.0 | 86.1 | 80.4 | 78.0 |       |
| DBA   | 78.4 | 83.2 | 84.5 | 85.0 | 86.5 | 85.9 | 83.9 | 82.2 | 82.7 | 79.8 | 75.9 | 70.6 | 68.8 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH235 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 84.00 PAMB HG = 29.50 RELHUM = 44.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1640.3 FPS AE8 = 4.0 SQ IN  
FNRAIB = LBS XNLR = RPM XNHR = RPM V18 = 1533.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1408 TAPE = X14081 TEST PT NO = 1408 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1409 X1409C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100. | 110. | 120. | 130. | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|-------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|
| 50    | 79.3 | 77.1 | 77.6  | 78.0  | 78.5  | 78.1  | 79.0 | 77.1 | 78.8 | 77.4 | 82.3  | 83.2  | 86.1  | 121.6 |
| 63    | 89.2 | 84.7 | 84.5  | 86.7  | 88.9  | 83.5  | 86.9 | 81.5 | 82.5 | 87.0 | 81.9  | 84.9  | 88.8  | 128.0 |
| 80    | 81.2 | 85.2 | 82.0  | 82.4  | 82.9  | 84.2  | 84.9 | 85.0 | 85.7 | 86.3 | 86.2  | 89.1  | 91.8  | 127.4 |
| 100   | 82.0 | 87.0 | 82.5  | 84.0  | 85.4  | 85.3  | 85.4 | 87.3 | 86.5 | 88.3 | 90.7  | 93.7  | 96.8  | 130.3 |
| 125   | 80.2 | 83.4 | 84.7  | 85.6  | 86.6  | 86.5  | 86.8 | 87.0 | 87.0 | 88.8 | 93.4  | 97.6  | 100.3 | 132.6 |
| 160   | 82.2 | 76.5 | 83.0  | 83.2  | 83.4  | 84.0  | 87.6 | 85.0 | 85.7 | 88.3 | 93.9  | 98.1  | 102.0 | 133.1 |
| 200   | 83.3 | 80.9 | 82.1  | 82.8  | 83.5  | 84.9  | 87.8 | 88.4 | 89.9 | 90.4 | 95.1  | 99.8  | 103.9 | 134.8 |
| 250   | 78.3 | 84.6 | 82.6  | 83.1  | 83.7  | 86.3  | 88.2 | 89.4 | 90.3 | 94.4 | 99.8  | 104.2 | 106.4 | 138.0 |
| 315   | 82.1 | 83.9 | 83.4  | 85.2  | 87.1  | 87.7  | 90.1 | 91.0 | 92.4 | 95.7 | 100.1 | 104.8 | 107.7 | 139.0 |
| 400   | 80.0 | 83.3 | 84.0  | 85.0  | 85.9  | 86.5  | 97.4 | 90.6 | 93.3 | 97.8 | 101.7 | 106.4 | 107.8 | 140.2 |
| 500   | 80.7 | 83.0 | 84.6  | 85.2  | 85.9  | 87.3  | 89.4 | 90.6 | 93.3 | 97.6 | 101.8 | 105.9 | 107.1 | 139.5 |
| 630   | 81.2 | 83.7 | 86.0  | 86.4  | 86.9  | 87.7  | 88.6 | 91.0 | 93.0 | 98.0 | 101.2 | 104.4 | 105.3 | 138.4 |
| 800   | 82.2 | 84.7 | 86.7  | 87.2  | 87.6  | 88.5  | 90.1 | 92.8 | 94.0 | 98.8 | 101.5 | 102.4 | 102.0 | 137.6 |
| 1000  | 84.7 | 86.0 | 88.0  | 88.3  | 88.6  | 89.5  | 90.9 | 92.8 | 95.0 | 98.6 | 100.4 | 100.4 | 99.5  | 136.8 |
| 1250  | 85.8 | 89.1 | 88.8  | 90.1  | 91.5  | 92.3  | 93.2 | 93.9 | 95.3 | 98.7 | 99.8  | 98.7  | 98.5  | 136.9 |
| 1600  | 84.8 | 88.2 | 88.6  | 89.4  | 90.2  | 90.8  | 92.2 | 93.7 | 95.4 | 97.7 | 99.1  | 97.0  | 96.0  | 136.0 |
| 2000  | 86.8 | 88.4 | 89.6  | 89.6  | 89.6  | 91.2  | 92.4 | 94.2 | 95.1 | 97.4 | 97.6  | 96.5  | 95.0  | 135.6 |
| 2500  | 86.8 | 89.8 | 90.3  | 90.9  | 91.5  | 92.3  | 92.8 | 94.9 | 96.7 | 98.8 | 97.3  | 96.6  | 94.9  | 136.5 |
| 3150  | 87.1 | 89.7 | 90.7  | 91.1  | 91.6  | 92.6  | 94.0 | 95.0 | 96.5 | 98.9 | 98.6  | 97.6  | 96.6  | 137.0 |
| 4000  | 86.5 | 89.0 | 90.8  | 91.4  | 91.9  | 92.6  | 93.8 | 96.4 | 97.5 | 98.9 | 99.2  | 99.5  | 98.5  | 137.8 |
| 5000  | 89.5 | 92.3 | 92.6  | 93.0  | 93.3  | 93.5  | 94.9 | 96.5 | 98.7 | 99.6 | 101.2 | 101.7 | 101.0 | 139.4 |
| 6300  | 92.9 | 95.2 | 95.1  | 94.8  | 94.5  | 94.7  | 96.0 | 97.7 | 99.2 | 99.8 | 100.8 | 102.9 | 102.9 | 140.6 |
| 8000  | 95.5 | 98.1 | 97.7  | 96.0  | 94.3  | 95.1  | 95.1 | 97.2 | 98.4 | 99.4 | 100.2 | 102.5 | 102.9 | 141.1 |
| 10000 | 97.5 | 99.9 | 100.4 | 99.1  | 97.7  | 96.7  | 96.2 | 96.9 | 98.0 | 98.8 | 98.8  | 101.8 | 102.4 | 142.4 |
| 12500 | 97.1 | 98.4 | 101.4 | 100.6 | 99.8  | 99.0  | 96.6 | 96.7 | 97.0 | 96.7 | 96.7  | 99.8  | 100.3 | 143.3 |
| 16000 | 94.0 | 96.3 | 98.5  | 99.6  | 100.7 | 100.2 | 98.0 | 97.1 | 96.4 | 94.9 | 95.4  | 97.5  | 97.3  | 143.9 |
| 20000 | 92.3 | 93.6 | 95.2  | 96.8  | 98.4  | 99.5  | 98.3 | 96.1 | 95.6 | 93.6 | 93.3  | 94.7  | 94.6  | 144.0 |
| 25000 | 89.1 | 91.4 | 93.4  | 94.6  | 95.8  | 97.2  | 96.8 | 95.8 | 94.9 | 93.0 | 90.5  | 92.9  | 90.9  | 144.6 |
| 31500 | 83.2 | 86.0 | 88.0  | 89.6  | 91.1  | 92.5  | 91.0 | 91.0 | 90.8 | 88.7 | 86.0  | 86.9  | 84.4  | 142.8 |
| 40000 | 79.8 | 83.4 | 86.1  | 87.2  | 88.2  | 89.6  | 88.6 | 88.0 | 87.9 | 85.8 | 83.7  | 84.1  | 81.3  | 144.1 |
| 50000 | 76.7 | 80.1 | 83.2  | 84.7  | 86.3  | 87.3  | 85.5 | 84.5 | 84.8 | 83.3 | 80.7  | 81.0  | 78.4  | 145.7 |
| 63000 | 74.0 | 77.7 | 80.7  | 81.7  | 82.7  | 84.4  | 81.8 | 81.8 | 82.4 | 80.4 | 79.0  | 78.1  | 74.6  | 148.1 |
| 80000 | 68.4 | 74.8 | 77.9  | 78.3  | 78.7  | 81.3  | 78.2 | 77.4 | 78.3 | 77.6 | 75.7  | 74.8  | 67.6  | 151.4 |

OASPL 104.4 106.5 107.7 107.7 107.9 108.1 108.2 108.5 109.5 111.3 113.0 115.4 116.5 157.2  
 PNL 114.1 116.4 116.7 116.7 116.8 117.3 118.7 120.2 121.7 123.6 125.0 126.2 126.6  
 PNLT 114.6 116.4 116.7 116.7 116.8 117.3 120.0 120.2 121.7 123.6 125.0 126.2 126.6  
 DEA 101.1 103.6 104.0 103.7 103.5 104.1 105.2 106.7 108.2 110.3 111.5 112.8 113.1

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH210 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1644.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1564.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1409 TAPE = X1409C TEST PT NO = 1409 NC = AE058 CORR FAN SPEED = RPM

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OF POOR QUALITY

81185-08

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1409 X1409F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 79.3  | 77.1  | 77.6  | 78.0  | 78.5  | 78.1  | 79.0  | 77.1  | 78.8  | 77.4  | 82.3  | 83.2  | 86.1  | 121.6 |
| 63    | 89.2  | 84.7  | 84.5  | 86.7  | 88.9  | 83.5  | 86.9  | 81.5  | 82.5  | 87.0  | 81.9  | 84.9  | 88.8  | 128.0 |
| 80    | 81.2  | 85.2  | 82.0  | 82.4  | 82.9  | 84.2  | 84.9  | 85.0  | 85.7  | 86.3  | 86.2  | 89.1  | 91.8  | 127.4 |
| 100   | 82.0  | 87.0  | 82.5  | 84.0  | 85.4  | 85.3  | 85.4  | 87.3  | 86.5  | 88.3  | 90.7  | 93.7  | 96.8  | 130.3 |
| 125   | 80.2  | 83.4  | 84.7  | 85.6  | 86.6  | 86.5  | 86.8  | 87.0  | 87.0  | 88.8  | 93.4  | 97.6  | 100.3 | 132.6 |
| 160   | 82.2  | 76.5  | 83.0  | 83.2  | 83.4  | 84.0  | 87.6  | 85.0  | 85.7  | 88.3  | 93.9  | 98.1  | 102.0 | 133.1 |
| 200   | 83.3  | 80.9  | 82.1  | 82.8  | 83.5  | 84.9  | 87.8  | 88.4  | 89.9  | 90.4  | 95.1  | 99.8  | 103.9 | 134.8 |
| 250   | 78.3  | 84.6  | 82.6  | 83.1  | 83.7  | 86.3  | 88.2  | 89.4  | 90.3  | 94.4  | 99.8  | 104.2 | 106.4 | 138.0 |
| 315   | 82.1  | 83.9  | 83.4  | 85.2  | 87.1  | 87.7  | 90.1  | 91.0  | 92.4  | 95.7  | 100.1 | 104.8 | 107.7 | 139.0 |
| 400   | 80.0  | 83.3  | 84.0  | 85.0  | 85.9  | 86.5  | 89.4  | 90.6  | 93.3  | 97.8  | 101.7 | 106.4 | 107.8 | 140.2 |
| 500   | 80.7  | 83.0  | 84.6  | 85.2  | 85.9  | 87.3  | 89.4  | 90.6  | 93.3  | 97.6  | 101.8 | 105.9 | 107.1 | 139.5 |
| 630   | 81.2  | 83.7  | 86.0  | 86.4  | 86.9  | 87.7  | 88.6  | 91.0  | 93.0  | 98.0  | 101.2 | 104.4 | 105.3 | 138.4 |
| 800   | 32.2  | 84.7  | 86.7  | 87.2  | 87.6  | 88.5  | 90.1  | 92.8  | 94.0  | 98.8  | 101.5 | 102.4 | 102.0 | 137.6 |
| 1000  | 34.7  | 86.0  | 88.0  | 88.3  | 88.6  | 89.5  | 90.9  | 92.8  | 95.0  | 98.6  | 100.4 | 100.4 | 99.5  | 136.8 |
| 1250  | 85.8  | 89.1  | 88.8  | 90.1  | 91.5  | 92.3  | 93.2  | 93.9  | 95.3  | 98.7  | 99.8  | 98.7  | 98.5  | 136.9 |
| 1600  | 84.8  | 88.2  | 88.6  | 89.4  | 90.2  | 90.8  | 92.2  | 93.7  | 95.4  | 97.7  | 99.1  | 97.0  | 96.0  | 136.0 |
| 2000  | 86.8  | 88.4  | 89.6  | 89.6  | 89.6  | 91.2  | 92.4  | 94.2  | 95.1  | 97.4  | 97.6  | 96.5  | 95.0  | 135.6 |
| 2500  | 86.8  | 89.8  | 90.3  | 90.9  | 91.5  | 92.3  | 92.8  | 94.9  | 96.7  | 98.8  | 97.3  | 96.6  | 94.9  | 136.5 |
| 3150  | 87.1  | 89.7  | 90.7  | 91.1  | 91.6  | 92.6  | 94.0  | 95.0  | 96.5  | 98.9  | 98.6  | 97.6  | 96.6  | 137.0 |
| 4000  | 86.5  | 89.0  | 90.8  | 91.4  | 91.9  | 92.6  | 93.8  | 96.4  | 97.5  | 98.9  | 99.2  | 99.5  | 98.5  | 137.8 |
| 5000  | 89.5  | 92.3  | 92.6  | 93.0  | 93.3  | 93.5  | 94.9  | 96.5  | 98.7  | 99.6  | 101.2 | 101.7 | 101.0 | 139.4 |
| 6300  | 92.9  | 95.2  | 95.1  | 94.8  | 94.5  | 94.7  | 96.0  | 97.7  | 99.2  | 99.8  | 100.8 | 102.9 | 102.9 | 140.6 |
| 8000  | 95.5  | 98.1  | 97.7  | 96.0  | 94.3  | 95.1  | 95.1  | 97.2  | 98.4  | 99.4  | 100.2 | 102.5 | 102.9 | 141.1 |
| 10000 | 97.5  | 99.9  | 100.4 | 99.1  | 97.7  | 96.7  | 96.2  | 96.9  | 98.0  | 98.8  | 98.8  | 101.8 | 102.4 | 142.4 |
| 12500 | 97.1  | 98.4  | 101.4 | 100.6 | 99.8  | 99.0  | 96.6  | 96.7  | 97.0  | 96.7  | 96.7  | 99.8  | 100.3 | 143.3 |
| 16000 | 94.0  | 96.3  | 98.5  | 99.6  | 100.7 | 100.2 | 98.0  | 97.1  | 96.4  | 94.9  | 95.4  | 97.5  | 97.3  | 143.9 |
| 20000 | 92.3  | 93.6  | 95.2  | 96.8  | 98.4  | 99.5  | 98.3  | 96.1  | 95.6  | 93.6  | 93.3  | 94.7  | 94.6  | 144.0 |
| 25000 | 89.1  | 91.4  | 93.4  | 94.6  | 95.8  | 97.2  | 96.8  | 95.8  | 94.9  | 93.0  | 90.5  | 92.9  | 90.9  | 144.6 |
| 31500 | 83.2  | 86.0  | 88.0  | 89.6  | 91.1  | 92.5  | 91.0  | 91.0  | 90.8  | 88.7  | 86.0  | 86.9  | 84.4  | 142.8 |
| 40000 | 79.8  | 83.4  | 86.1  | 87.2  | 88.2  | 89.6  | 88.6  | 88.0  | 87.9  | 85.8  | 83.7  | 84.1  | 81.3  | 144.1 |
| 50000 | 76.7  | 80.1  | 83.2  | 84.7  | 86.3  | 87.3  | 85.5  | 84.5  | 84.8  | 83.3  | 80.7  | 81.0  | 78.4  | 145.7 |
| 63000 | 74.0  | 77.7  | 80.7  | 81.7  | 82.7  | 84.4  | 81.8  | 81.8  | 82.4  | 80.4  | 79.0  | 78.1  | 74.6  | 148.1 |
| 80000 | 68.4  | 74.8  | 77.9  | 78.3  | 78.7  | 81.3  | 78.2  | 77.4  | 78.3  | 77.6  | 75.7  | 74.8  | 67.6  | 151.4 |
| GASPL | 104.4 | 106.5 | 107.7 | 107.7 | 107.9 | 108.1 | 108.2 | 108.5 | 109.5 | 111.3 | 113.0 | 115.4 | 116.5 | 157.2 |
| PNL   | 114.1 | 116.4 | 116.7 | 116.7 | 116.8 | 117.3 | 118.7 | 120.2 | 121.7 | 123.6 | 125.0 | 126.2 | 126.6 |       |
| PNLT  | 114.6 | 116.4 | 116.7 | 116.7 | 116.8 | 117.3 | 120.0 | 120.2 | 121.7 | 123.6 | 125.0 | 126.2 | 126.6 |       |
| DBA   | 190.0 | 195.8 | 198.8 | 199.3 | 199.9 | 202.3 | 199.3 | 198.7 | 199.5 | 198.5 | 196.7 | 195.9 | 189.8 |       |

ORIGINAL FIGURE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                  |                      |                        |                      |                   |                   |
|------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH210 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59    | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 76.50       | PAMB HG = 29.45   | RELHUM = 82.8 PCT |
| WIND DIR =       | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =          | LBS XNL =            | RPM XNH =              | RPM V8 = 1644.3 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =         | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1564.1 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-ZER-1409 TAPE = X1409F TEST PT NO = 1409 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1409 X14091

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 58.1 | 62.9 | 64.8 | 66.4 | 67.8 | 68.5 | 79.3 | 72.0 | 74.0 | 77.5 | 79.9 | 82.4 | 80.4 | 157.8 |
| 63    | 58.9 | 62.7 | 65.3 | 66.7 | 67.8 | 69.3 | 71.3 | 72.0 | 74.0 | 77.3 | 79.9 | 81.8 | 79.7 | 157.1 |
| 80    | 59.2 | 63.3 | 66.7 | 67.8 | 68.7 | 69.7 | 70.4 | 72.4 | 73.7 | 77.7 | 79.2 | 80.2 | 77.7 | 156.0 |
| 100   | 60.2 | 64.3 | 67.4 | 68.6 | 69.4 | 70.4 | 71.9 | 74.2 | 74.6 | 78.4 | 79.4 | 78.1 | 74.3 | 155.2 |
| 125   | 62.6 | 65.4 | 68.6 | 69.6 | 70.3 | 71.3 | 72.6 | 74.1 | 75.6 | 78.0 | 78.3 | 76.0 | 71.6 | 154.4 |
| 160   | 63.5 | 68.4 | 69.3 | 71.3 | 73.0 | 74.0 | 74.8 | 75.0 | 75.8 | 78.0 | 77.5 | 74.0 | 70.2 | 154.5 |
| 200   | 62.2 | 67.3 | 68.9 | 70.4 | 71.7 | 72.4 | 73.6 | 74.7 | 75.6 | 76.8 | 76.5 | 72.0 | 67.2 | 153.5 |
| 250   | 63.9 | 67.3 | 69.6 | 70.4 | 70.8 | 72.6 | 73.6 | 75.0 | 75.1 | 76.2 | 74.8 | 71.1 | 65.6 | 153.2 |
| 315   | 63.5 | 68.2 | 70.0 | 71.4 | 72.4 | 73.4 | 73.7 | 75.4 | 76.4 | 77.3 | 74.0 | 70.6 | 64.5 | 154.1 |
| 400   | 63.3 | 67.7 | 70.0 | 71.3 | 72.2 | 73.4 | 74.7 | 75.2 | 75.9 | 77.0 | 74.8 | 70.9 | 65.3 | 154.6 |
| 500   | 62.3 | 66.7 | 69.9 | 71.3 | 72.3 | 73.2 | 74.2 | 75.2 | 76.5 | 76.6 | 74.9 | 72.2 | 66.3 | 155.4 |
| 630   | 64.8 | 69.6 | 71.3 | 72.6 | 73.5 | 73.8 | 75.1 | 76.1 | 77.4 | 76.9 | 76.4 | 73.8 | 67.7 | 157.0 |
| 800   | 67.7 | 72.2 | 73.4 | 74.1 | 74.4 | 74.8 | 75.9 | 77.0 | 77.5 | 76.7 | 75.6 | 74.2 | 68.5 | 158.2 |
| 1000  | 69.8 | 74.7 | 75.8 | 75.2 | 74.1 | 75.1 | 74.8 | 76.3 | 76.5 | 76.0 | 74.5 | 73.2 | 67.3 | 158.7 |
| 1250  | 71.3 | 76.2 | 78.4 | 78.1 | 77.3 | 76.5 | 75.8 | 75.9 | 76.0 | 75.1 | 72.6 | 71.7 | 65.4 | 160.0 |
| 1600  | 70.0 | 74.1 | 78.9 | 79.3 | 79.1 | 78.6 | 75.9 | 75.4 | 74.5 | 72.4 | 69.6 | 68.3 | 61.0 | 160.9 |
| 2000  | 65.9 | 71.4 | 75.6 | 78.0 | 79.9 | 79.6 | 77.2 | 75.5 | 73.5 | 70.0 | 67.4 | 64.4 | 55.0 | 161.5 |
| 2500  | 62.5 | 67.5 | 71.5 | 74.6 | 77.0 | 78.3 | 76.9 | 73.9 | 71.9 | 67.5 | 63.5 | 58.7 | 47.3 | 161.6 |
| 3150  | 55.9 | 62.9 | 67.8 | 70.8 | 73.0 | 74.7 | 74.0 | 72.0 | 69.3 | 64.4 | 57.3 | 52.0 | 35.2 | 162.2 |
| 4000  | 43.8 | 52.7 | 58.6 | 62.5 | 65.4 | 67.1 | 65.2 | 63.9 | 61.3 | 55.4 | 46.6 | 37.0 | 14.2 | 160.4 |
| 5000  | 30.6 | 42.5 | 50.5 | 54.7 | 57.4 | 59.4 | 57.9 | 55.5 | 52.3 | 44.9 | 34.5 | 20.6 |      | 161.7 |
| 6300  | 9.7  | 25.0 | 35.4 | 41.5 | 45.4 | 47.2 | 44.6 | 41.2 | 37.1 | 28.2 | 13.7 |      |      | 163.3 |
| 8000  |      |      | 11.6 | 19.2 | 23.8 | 26.6 | 22.9 | 19.3 | 13.3 | 0.5  |      |      |      | 165.7 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 169.0 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| ASPL  | 78.2 | 82.8 | 85.5 | 86.4 | 87.1 | 87.6 | 87.8 | 87.7 | 88.1 | 89.1 | 89.0 | 88.6 | 85.5 | 174.6 |
| PNL   | 86.9 | 91.7 | 95.6 | 97.0 | 98.4 | 99.1 | 98.3 | 97.1 | 96.2 | 94.7 | 92.9 | 90.6 | 84.5 |       |
| PNLT  | 86.9 | 91.7 | 95.6 | 97.5 | 99.0 | 99.1 | 98.3 | 97.1 | 96.2 | 95.3 | 92.9 | 90.6 | 84.5 |       |
| DBA   | 77.4 | 82.2 | 85.2 | 86.1 | 86.8 | 87.0 | 85.8 | 85.5 | 85.2 | 84.1 | 82.4 | 80.4 | 74.4 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH210 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1644.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1564.1 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1409 TAPE = X14091 TEST PT NO = 1409 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1411 X1411C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| 50    | 81.5 | 78.6  | 75.3  | 79.4  | 80.0  | 76.8  | 78.0  | 79.9 | 77.3  | 80.2  | 83.0  | 85.2  | 89.4  | 123.0 |
| 63    | 87.2 | 83.5  | 79.7  | 84.0  | 87.9  | 83.7  | 86.6  | 84.5 | 84.5  | 88.0  | 82.7  | 84.1  | 92.3  | 127.9 |
| 80    | 83.2 | 86.5  | 83.2  | 84.8  | 83.6  | 86.0  | 87.1  | 86.3 | 86.5  | 87.6  | 86.9  | 90.4  | 93.5  | 128.9 |
| 100   | 83.5 | 88.3  | 83.8  | 85.8  | 86.9  | 86.5  | 86.9  | 88.8 | 87.3  | 89.6  | 92.2  | 95.2  | 98.6  | 131.8 |
| 125   | 81.2 | 84.4  | 86.7  | 87.2  | 87.8  | 87.7  | 88.3  | 88.5 | 88.7  | 90.3  | 94.9  | 99.1  | 101.3 | 133.9 |
| 160   | 82.2 | 78.5  | 83.7  | 82.8  | 84.9  | 84.5  | 88.5  | 85.8 | 86.5  | 89.0  | 94.9  | 98.9  | 103.3 | 134.1 |
| 200   | 83.3 | 82.9  | 82.9  | 83.9  | 85.5  | 85.9  | 88.8  | 89.7 | 91.1  | 91.4  | 96.6  | 101.3 | 105.4 | 136.2 |
| 250   | 80.0 | 86.1  | 83.8  | 84.1  | 85.0  | 87.6  | 89.5  | 90.9 | 91.6  | 95.9  | 101.5 | 105.5 | 108.1 | 139.5 |
| 315   | 82.9 | 84.7  | 84.4  | 86.7  | 87.6  | 88.4  | 91.6  | 91.7 | 93.7  | 97.2  | 101.6 | 106.1 | 109.0 | 140.3 |
| 400   | 81.0 | 84.8  | 85.8  | 85.1  | 87.7  | 88.3  | 98.7  | 92.1 | 94.5  | 98.6  | 102.7 | 107.4 | 108.6 | 141.2 |
| 500   | 82.2 | 84.5  | 85.1  | 86.6  | 87.4  | 88.5  | 90.9  | 92.1 | 94.8  | 99.4  | 103.3 | 107.2 | 108.8 | 141.0 |
| 630   | 82.2 | 85.0  | 86.7  | 87.3  | 88.4  | 89.7  | 90.1  | 92.8 | 94.5  | 100.0 | 102.4 | 105.9 | 106.5 | 139.9 |
| 800   | 83.4 | 85.7  | 87.5  | 88.0  | 88.9  | 90.0  | 91.9  | 93.8 | 95.7  | 100.3 | 102.2 | 103.4 | 103.5 | 138.8 |
| 1000  | 86.7 | 87.0  | 89.0  | 89.0  | 90.4  | 90.7  | 91.9  | 94.5 | 96.5  | 99.8  | 101.7 | 101.6 | 101.3 | 138.1 |
| 1250  | 86.3 | 89.6  | 89.6  | 90.7  | 91.0  | 92.3  | 93.2  | 94.4 | 96.3  | 100.7 | 101.3 | 99.7  | 99.2  | 137.9 |
| 1600  | 86.3 | 89.7  | 90.4  | 90.7  | 91.7  | 91.8  | 93.2  | 95.0 | 97.4  | 99.2  | 100.8 | 98.7  | 98.2  | 137.6 |
| 2000  | 88.5 | 90.2  | 91.1  | 91.5  | 91.1  | 91.9  | 93.7  | 95.2 | 97.1  | 99.1  | 99.6  | 97.7  | 96.7  | 137.2 |
| 2500  | 88.5 | 91.0  | 91.3  | 91.8  | 92.2  | 93.6  | 93.8  | 95.9 | 98.2  | 101.0 | 99.0  | 97.9  | 97.1  | 138.0 |
| 3150  | 89.4 | 91.7  | 92.2  | 92.0  | 92.3  | 94.1  | 95.0  | 96.2 | 97.8  | 101.1 | 100.4 | 99.1  | 98.6  | 138.6 |
| 4000  | 89.5 | 91.7  | 93.1  | 92.8  | 92.7  | 93.9  | 94.8  | 97.4 | 99.5  | 101.4 | 100.9 | 100.7 | 100.7 | 139.6 |
| 5000  | 93.0 | 95.3  | 95.4  | 94.3  | 93.8  | 94.5  | 95.9  | 97.3 | 100.2 | 102.6 | 102.9 | 103.2 | 103.2 | 141.2 |
| 6300  | 97.2 | 99.7  | 98.3  | 97.2  | 96.2  | 95.7  | 96.7  | 98.4 | 100.2 | 102.3 | 103.6 | 104.4 | 105.4 | 142.7 |
| 8000  | 99.3 | 102.1 | 101.9 | 100.4 | 97.6  | 96.9  | 96.3  | 98.2 | 99.9  | 101.4 | 102.4 | 103.7 | 104.9 | 143.6 |
| 10000 | 99.5 | 102.6 | 103.7 | 103.5 | 102.0 | 100.0 | 98.0  | 98.4 | 99.3  | 101.6 | 101.6 | 103.1 | 104.1 | 145.2 |
| 12500 | 97.8 | 99.6  | 102.9 | 104.2 | 103.0 | 102.5 | 99.3  | 98.2 | 98.8  | 98.9  | 99.0  | 101.8 | 102.3 | 145.7 |
| 16000 | 95.5 | 97.8  | 99.5  | 101.6 | 102.7 | 103.0 | 100.8 | 99.1 | 98.4  | 97.6  | 97.7  | 99.0  | 99.3  | 146.0 |
| 20000 | 93.8 | 95.4  | 96.5  | 98.6  | 99.7  | 101.0 | 100.3 | 98.9 | 98.1  | 95.4  | 95.3  | 96.4  | 97.3  | 145.9 |
| 25000 | 90.3 | 92.9  | 94.9  | 96.1  | 97.3  | 98.4  | 98.3  | 98.0 | 97.4  | 94.5  | 93.0  | 94.2  | 92.4  | 146.3 |
| 31500 | 84.5 | 88.5  | 90.0  | 92.1  | 92.4  | 93.7  | 92.7  | 92.3 | 92.5  | 90.4  | 88.5  | 88.9  | 86.7  | 144.5 |
| 40000 | 81.3 | 85.9  | 87.9  | 88.9  | 90.2  | 91.3  | 90.4  | 89.7 | 89.7  | 88.0  | 85.7  | 85.4  | 82.8  | 145.9 |
| 50000 | 78.7 | 83.1  | 85.7  | 86.3  | 87.8  | 88.3  | 87.0  | 86.5 | 87.3  | 85.8  | 83.2  | 83.5  | 80.2  | 147.5 |
| 63000 | 75.8 | 80.4  | 83.4  | 82.8  | 84.7  | 86.2  | 84.3  | 84.3 | 84.9  | 83.7  | 82.0  | 80.6  | 77.4  | 150.4 |
| 80000 | 70.9 | 78.6  | 80.4  | 79.3  | 82.0  | 83.6  | 80.2  | 80.7 | 81.6  | 81.6  | 78.7  | 77.8  | 71.1  | 154.1 |

GASPL 106.6 109.1 110.0 110.4 110.1 110.2 109.8 109.9 111.1 113.3 114.7 116.7 118.1 159.3  
 PNL 117.1 119.6 119.4 118.8 118.4 118.6 119.8 121.3 123.2 125.8 126.7 127.6 128.6  
 PNLT 117.1 119.6 119.4 118.8 118.4 118.6 121.0 121.3 123.2 125.8 126.7 127.6 128.6  
 DBA 104.0 106.7 106.9 106.3 105.4 105.5 106.3 107.7 109.7 112.5 113.3 114.1 114.8

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH211 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1643.7 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1635.8 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1411 TAPE = X1411C TEST PT NO = 1411 NC = A1058 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1411 X1411F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.5  | 78.6  | 75.3  | 79.4  | 80.0  | 76.8  | 78.0  | 79.9  | 77.3  | 80.2  | 83.0  | 85.2  | 89.4  | 123.0 |
| 63    | 87.2  | 83.5  | 79.7  | 84.0  | 87.9  | 83.7  | 86.6  | 84.5  | 84.5  | 88.0  | 82.7  | 84.1  | 92.3  | 127.9 |
| 80    | 83.2  | 86.5  | 83.2  | 84.8  | 83.6  | 86.0  | 87.1  | 86.3  | 86.5  | 87.6  | 86.9  | 90.4  | 93.5  | 128.9 |
| 100   | 83.5  | 88.3  | 83.8  | 85.8  | 86.9  | 86.5  | 86.9  | 88.8  | 87.3  | 89.6  | 92.2  | 95.2  | 98.6  | 131.8 |
| 125   | 81.2  | 84.4  | 86.7  | 87.2  | 87.8  | 87.7  | 88.3  | 88.5  | 88.7  | 90.3  | 94.9  | 99.1  | 101.3 | 133.9 |
| 160   | 82.2  | 78.5  | 83.7  | 82.8  | 84.9  | 84.5  | 88.6  | 85.8  | 86.5  | 89.0  | 94.9  | 98.9  | 103.3 | 134.1 |
| 200   | 83.3  | 82.9  | 82.9  | 83.9  | 85.5  | 85.9  | 88.8  | 89.7  | 91.1  | 91.4  | 96.6  | 101.3 | 105.4 | 136.2 |
| 250   | 80.0  | 86.1  | 83.8  | 84.1  | 85.0  | 87.6  | 89.5  | 90.9  | 91.6  | 95.9  | 101.5 | 105.5 | 108.1 | 139.5 |
| 315   | 82.9  | 84.7  | 84.4  | 86.7  | 87.6  | 88.4  | 91.6  | 91.7  | 93.7  | 97.2  | 101.6 | 106.1 | 109.0 | 140.3 |
| 400   | 81.0  | 84.8  | 85.8  | 85.1  | 87.7  | 88.3  | 98.7  | 92.1  | 94.5  | 98.6  | 102.7 | 107.4 | 108.6 | 141.2 |
| 500   | 82.2  | 84.7  | 85.1  | 86.6  | 87.4  | 88.5  | 90.9  | 92.1  | 94.8  | 99.4  | 103.3 | 107.2 | 108.8 | 141.0 |
| 630   | 82.2  | 85.0  | 86.7  | 87.3  | 88.4  | 89.7  | 90.1  | 92.8  | 94.5  | 100.0 | 102.4 | 105.9 | 106.5 | 139.9 |
| 800   | 83.4  | 85.7  | 87.5  | 88.0  | 88.9  | 90.0  | 91.9  | 93.8  | 95.7  | 100.3 | 102.2 | 103.4 | 103.5 | 138.8 |
| 1000  | 86.7  | 87.0  | 89.0  | 89.0  | 90.4  | 90.7  | 91.9  | 94.5  | 96.5  | 99.8  | 101.7 | 101.6 | 101.3 | 138.1 |
| 1250  | 86.3  | 89.6  | 89.6  | 90.7  | 91.0  | 92.3  | 93.2  | 94.4  | 96.3  | 100.7 | 101.3 | 99.7  | 99.2  | 137.9 |
| 1600  | 86.8  | 89.7  | 90.4  | 90.7  | 91.7  | 91.8  | 93.2  | 95.0  | 97.4  | 99.2  | 100.8 | 98.7  | 98.2  | 137.6 |
| 2000  | 88.5  | 90.2  | 91.1  | 91.5  | 91.1  | 91.9  | 93.7  | 95.2  | 97.1  | 99.1  | 99.6  | 97.7  | 96.7  | 137.2 |
| 2500  | 88.5  | 91.0  | 91.3  | 91.6  | 92.2  | 93.6  | 93.8  | 95.9  | 98.2  | 101.0 | 99.0  | 97.9  | 97.1  | 138.0 |
| 3150  | 89.4  | 91.7  | 92.2  | 92.0  | 92.3  | 94.1  | 95.0  | 96.2  | 97.8  | 101.1 | 100.4 | 99.1  | 98.6  | 138.6 |
| 4000  | 89.5  | 91.7  | 93.1  | 92.8  | 92.7  | 93.9  | 94.8  | 97.4  | 99.5  | 101.4 | 100.9 | 100.7 | 100.7 | 139.6 |
| 5000  | 93.0  | 95.3  | 95.4  | 94.3  | 93.8  | 94.5  | 95.9  | 97.3  | 100.2 | 102.6 | 102.9 | 103.2 | 103.2 | 141.2 |
| 6300  | 97.2  | 99.7  | 98.3  | 97.2  | 96.2  | 95.7  | 96.7  | 98.4  | 100.2 | 102.3 | 103.6 | 104.4 | 105.4 | 142.7 |
| 8000  | 99.3  | 102.1 | 101.9 | 100.4 | 97.6  | 96.9  | 96.3  | 98.2  | 99.9  | 101.4 | 102.4 | 103.7 | 104.9 | 143.6 |
| 10000 | 99.5  | 102.6 | 103.7 | 103.5 | 102.0 | 100.0 | 98.0  | 98.4  | 99.3  | 101.6 | 101.6 | 103.1 | 104.1 | 145.2 |
| 12500 | 97.8  | 99.6  | 102.9 | 104.2 | 103.0 | 102.5 | 99.3  | 98.2  | 98.8  | 98.9  | 99.0  | 101.8 | 102.3 | 145.7 |
| 16000 | 95.5  | 97.8  | 99.5  | 101.6 | 102.7 | 103.0 | 100.8 | 99.1  | 98.4  | 97.6  | 97.7  | 99.0  | 99.3  | 146.0 |
| 20000 | 93.8  | 95.4  | 96.5  | 98.5  | 99.7  | 101.0 | 100.3 | 98.9  | 98.1  | 95.4  | 95.3  | 96.4  | 97.3  | 145.9 |
| 25000 | 90.3  | 92.9  | 94.9  | 96.1  | 97.3  | 98.4  | 98.3  | 98.0  | 97.4  | 94.5  | 93.0  | 94.2  | 92.4  | 146.3 |
| 31500 | 84.5  | 88.5  | 90.0  | 92.1  | 92.4  | 93.7  | 92.7  | 92.3  | 92.5  | 90.4  | 88.5  | 88.9  | 86.7  | 144.5 |
| 40000 | 81.3  | 85.9  | 87.9  | 88.9  | 90.2  | 91.3  | 90.4  | 89.7  | 89.7  | 88.0  | 86.7  | 85.4  | 82.8  | 145.9 |
| 50000 | 78.7  | 83.1  | 85.7  | 86.3  | 87.8  | 88.3  | 87.0  | 86.5  | 87.3  | 85.8  | 83.2  | 83.5  | 80.2  | 147.5 |
| 63000 | 75.8  | 80.4  | 83.4  | 82.8  | 84.7  | 86.2  | 84.3  | 84.3  | 84.9  | 83.7  | 82.0  | 80.6  | 77.4  | 150.4 |
| 80000 | 70.9  | 78.6  | 80.4  | 79.3  | 82.0  | 83.6  | 80.2  | 80.7  | 81.6  | 81.6  | 78.7  | 77.8  | 71.1  | 154.1 |
| ASPL  | 106.6 | 109.1 | 110.0 | 110.4 | 110.1 | 110.2 | 109.8 | 109.9 | 111.1 | 113.3 | 114.7 | 116.7 | 118.1 | 159.3 |
| PNL   | 117.1 | 119.6 | 119.4 | 118.8 | 118.4 | 118.6 | 119.8 | 121.3 | 123.2 | 125.8 | 126.7 | 127.6 | 128.6 |       |
| PNLT  | 117.1 | 119.6 | 119.4 | 118.8 | 118.4 | 118.6 | 121.0 | 121.3 | 123.2 | 125.8 | 126.7 | 127.6 | 128.6 |       |
| DBA   | 192.3 | 199.3 | 201.3 | 201.4 | 202.9 | 204.4 | 201.4 | 201.8 | 202.6 | 202.4 | 199.7 | 198.7 | 192.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH211 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NG PWL AREA = FULL SPHERE TAMB F = 76.50 PAMB HG = 29.45 RELHUM = 82.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166 100000010361000000G036 VEHICL = ADH211 TEST DATE = 08-16-82  
 = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS1000000G036 IAPLHA = SB59 IEQA =

RUNPT = 82F-ZER-1411 TAPE = X1411F TEST PT NO = 1411 NC = AE05B CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1411 X14111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40.  | 50.          | 60.  | 70.  | 80.    | 90.        | 100. | 110. | 120. | 130. | 140.       | 150.           | 160. | PWL        |
|--------|------|--------------|------|------|--------|------------|------|------|------|------|------------|----------------|------|------------|
| 50     | 59.1 | 64.4         | 66.5 | 66.5 | 69.5   | 70.3       | 80.5 | 73.5 | 75.3 | 78.3 | 80.9       | 83.4           | 81.2 | 158.8      |
| 63     | 60.4 | 64.2         | 65.8 | 68.0 | 69.3   | 70.5       | 72.8 | 73.5 | 75.5 | 79.0 | 81.4       | 83.1           | 81.4 | 158.6      |
| 80     | 60.2 | 64.6         | 67.4 | 68.7 | 70.2   | 71.7       | 71.9 | 74.2 | 75.2 | 79.7 | 80.5       | 81.7           | 79.0 | 157.5      |
| 100    | 61.4 | 65.3         | 68.1 | 69.4 | 70.7   | 71.9       | 73.7 | 75.2 | 76.4 | 79.9 | 80.2       | 79.1           | 75.8 | 156.4      |
| 125    | 64.6 | 66.4         | 69.6 | 70.3 | 72.1   | 72.6       | 73.6 | 75.8 | 77.1 | 79.3 | 79.6       | 77.2           | 73.4 | 155.7      |
| 160    | 64.0 | 68.9         | 70.0 | 71.9 | 72.5   | 74.0       | 74.8 | 75.5 | 76.8 | 80.0 | 79.0       | 75.0           | 70.9 | 155.5      |
| 200    | 64.2 | 68.8         | 70.6 | 71.7 | 73.2   | 73.4       | 74.6 | 76.0 | 77.6 | 78.3 | 78.2       | 73.8           | 69.5 | 155.2      |
| 250    | 65.6 | 69.0         | 71.1 | 72.3 | 72.3   | 73.3       | 74.9 | 76.0 | 77.1 | 78.0 | 76.8       | 72.3           | 67.3 | 154.8      |
| 315    | 65.2 | 69.5         | 71.0 | 72.1 | 73.2   | 74.7       | 74.7 | 76.4 | 77.9 | 79.5 | 75.7       | 71.9           | 66.9 | 155.6      |
| 400    | 65.6 | 69.7         | 71.5 | 72.2 | 73.0   | 74.9       | 75.7 | 76.4 | 77.1 | 79.2 | 76.6       | 72.4           | 67.3 | 156.2      |
| 500    | 65.3 | 69.4         | 72.1 | 72.6 | 73.1   | 74.5       | 75.2 | 77.2 | 78.5 | 79.1 | 76.6       | 73.5           | 68.5 | 157.1      |
| 630    | 68.3 | 72.6         | 74.1 | 73.9 | 74.0   | 74.8       | 76.1 | 76.9 | 78.9 | 79.9 | 78.2       | 75.3           | 70.0 | 158.8      |
| 800    | 71.9 | 76.7         | 76.7 | 76.5 | 76.1   | 75.8       | 76.6 | 77.8 | 78.5 | 79.2 | 78.3       | 75.7           | 71.0 | 160.3      |
| 1000   | 73.6 | 78.7         | 80.1 | 79.6 | 77.3   | 76.8       | 76.1 | 77.3 | 78.0 | 78.0 | 76.7       | 74.4           | 69.3 | 161.2      |
| 1250   | 73.3 | 78.9         | 81.6 | 82.5 | 81.5   | 79.7       | 77.5 | 77.4 | 77.2 | 77.9 | 75.4       | 73.0           | 67.1 | 162.8      |
| 1600   | 70.7 | 75.3         | 80.4 | 82.9 | 82.3   | 82.1       | 78.6 | 76.9 | 76.3 | 74.6 | 71.9       | 70.3           | 63.0 | 163.3      |
| 2000   | 67.4 | 72.9         | 76.6 | 80.0 | 81.9   | 82.4       | 79.9 | 77.5 | 75.5 | 72.7 | 69.6       | 65.9           | 57.0 | 163.6      |
| 2500   | 64.0 | 69.2         | 72.7 | 76.4 | 78.3   | 79.8       | 78.9 | 76.6 | 74.4 | 69.2 | 65.5       | 60.5           | 50.0 | 163.5      |
| 3150   | 57.1 | 64.4         | 69.3 | 72.4 | 74.5   | 76.0       | 75.5 | 74.3 | 71.8 | 65.9 | 69.8       | 63.3           | 36.7 | 163.9      |
| 4000   | 45.1 | 55.2         | 60.6 | 65.0 | 66.6   | 68.4       | 67.0 | 65.2 | 63.1 | 57.1 | 49.1       | 39.0           | 16.5 | 162.1      |
| 5000   | 32.1 | 45.0         | 52.2 | 56.4 | 59.4   | 61.1       | 59.6 | 57.2 | 54.0 | 47.2 | 37.5       | 21.9           |      | 163.5      |
| 6300   | 11.7 | 28.0         | 37.9 | 43.0 | 46.9   | 48.2       | 46.1 | 43.2 | 39.6 | 30.7 | 16.2       |                |      | 165.1      |
| 8000   |      | 0.5          | 14.4 | 20.3 | 25.8   | 28.3       | 25.4 | 21.8 | 15.8 | 3.8  |            |                |      | 168.0      |
| 10000  |      |              |      |      |        |            |      |      |      |      |            |                |      | 171.7      |
| 12500  |      |              |      |      |        |            |      |      |      |      |            |                |      |            |
| 16000  |      |              |      |      |        |            |      |      |      |      |            |                |      |            |
| FNINT  | =    | LBS          | XNL  | =    | RPM    | XNH        | =    | RPM  | V8   | =    | 1643.7 FPS | AE8            | =    | 4.0 SQ IN  |
| FNRAMB | =    | LBS          | XNLR | =    | RPM    | XNHR       | =    | RPM  | V18  | =    | 1635.8 FPS | AE18           | =    | 20.4 SQ IN |
| RUNPT  | =    | 82F-ZER-1411 | TAPE | =    | X14111 | TEST PT NO | =    | 1411 | NC   | =    | AE058      | CORR FAN SPEED | =    | RPM        |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1412 X1412C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                                                                               | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120. | 130. | 140. | 150. | 160.  | PWL   |
|----------------------------------------------------------------------------------------------------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|-------|
| 50                                                                                                 | 84.3 | 83.1  | 77.6  | 80.6  | 78.2  | 77.3  | 80.2  | 79.9 | 80.8 | 80.7 | 87.0 | 86.5 | 97.9  | 127.6 |
| 63                                                                                                 | 89.4 | 88.7  | 82.0  | 86.8  | 87.6  | 82.2  | 87.1  | 84.3 | 87.2 | 85.5 | 84.4 | 85.6 | 96.8  | 129.7 |
| 80                                                                                                 | 81.9 | 86.5  | 83.0  | 84.0  | 83.4  | 85.0  | 86.4  | 86.0 | 87.0 | 86.8 | 86.4 | 88.9 | 97.3  | 129.3 |
| 100                                                                                                | 80.5 | 86.3  | 81.8  | 82.8  | 84.2  | 84.0  | 84.9  | 86.3 | 85.0 | 85.6 | 88.5 | 92.2 | 98.6  | 129.9 |
| 125                                                                                                | 78.4 | 82.2  | 83.0  | 83.5  | 83.8  | 84.5  | 85.3  | 85.5 | 85.0 | 86.3 | 90.9 | 95.8 | 99.8  | 131.1 |
| 160                                                                                                | 80.4 | 77.5  | 80.5  | 78.8  | 80.6  | 80.2  | 88.8  | 82.3 | 82.7 | 85.8 | 81.4 | 95.1 | 100.5 | 131.1 |
| 200                                                                                                | 83.1 | 80.1  | 78.9  | 78.9  | 80.8  | 80.6  | 85.8  | 84.9 | 85.6 | 86.7 | 90.8 | 96.3 | 100.7 | 131.4 |
| 250                                                                                                | 75.8 | 78.3  | 77.3  | 78.6  | 79.0  | 80.8  | 84.0  | 84.6 | 85.8 | 89.2 | 95.3 | 99.0 | 101.4 | 133.0 |
| 315                                                                                                | 81.1 | 80.4  | 78.7  | 81.7  | 81.3  | 81.7  | 87.8  | 86.7 | 86.9 | 90.8 | 95.4 | 99.6 | 101.0 | 133.4 |
| 400                                                                                                | 75.5 | 77.8  | 78.0  | 78.6  | 80.2  | 81.0  | 91.9  | 85.1 | 87.3 | 91.6 | 96.0 | 99.7 | 99.1  | 133.3 |
| 500                                                                                                | 75.8 | 77.3  | 78.3  | 79.6  | 79.7  | 81.3  | 84.9  | 85.1 | 87.3 | 92.4 | 95.8 | 97.9 | 96.1  | 131.9 |
| 630                                                                                                | 75.2 | 78.2  | 79.5  | 80.3  | 81.1  | 82.0  | 83.4  | 85.3 | 87.0 | 93.3 | 95.2 | 95.9 | 93.5  | 131.0 |
| 800                                                                                                | 76.7 | 79.0  | 79.8  | 80.8  | 81.4  | 82.5  | 84.4  | 86.3 | 88.0 | 93.1 | 95.2 | 93.1 | 89.5  | 130.3 |
| 1000                                                                                               | 80.9 | 82.0  | 83.8  | 83.5  | 84.1  | 84.7  | 85.6  | 87.0 | 89.3 | 93.3 | 94.5 | 91.4 | 87.0  | 130.5 |
| 1250                                                                                               | 81.3 | 84.6  | 83.3  | 83.7  | 84.0  | 85.1  | 87.0  | 87.6 | 89.3 | 93.7 | 93.5 | 88.7 | 86.2  | 130.3 |
| 1600                                                                                               | 82.8 | 84.2  | 84.6  | 84.7  | 85.0  | 86.1  | 87.2  | 89.0 | 90.4 | 92.9 | 93.1 | 87.0 | 85.5  | 130.4 |
| 2000                                                                                               | 83.3 | 83.2  | 84.6  | 85.2  | 85.3  | 86.2  | 87.4  | 89.0 | 90.1 | 93.6 | 92.4 | 85.7 | 83.7  | 130.4 |
| 2500                                                                                               | 84.0 | 85.5  | 85.6  | 85.8  | 86.7  | 87.3  | 88.3  | 90.1 | 91.7 | 94.5 | 91.3 | 85.1 | 82.4  | 131.3 |
| 3150                                                                                               | 86.1 | 86.9  | 87.0  | 86.7  | 86.8  | 88.4  | 90.0  | 90.2 | 92.1 | 94.6 | 91.7 | 84.8 | 82.1  | 131.9 |
| 4000                                                                                               | 88.8 | 88.2  | 88.6  | 87.5  | 88.2  | 88.7  | 90.6  | 91.9 | 93.3 | 95.0 | 91.9 | 86.3 | 83.3  | 132.9 |
| 5000                                                                                               | 92.1 | 92.1  | 90.9  | 89.8  | 89.6  | 90.6  | 91.5  | 92.5 | 94.3 | 95.9 | 93.7 | 88.0 | 85.3  | 134.6 |
| 6300                                                                                               | 95.8 | 96.3  | 95.4  | 93.2  | 92.8  | 92.3  | 93.3  | 94.5 | 94.5 | 95.6 | 94.9 | 90.9 | 87.2  | 136.9 |
| 8000                                                                                               | 99.1 | 101.0 | 99.3  | 97.5  | 94.9  | 94.2  | 92.7  | 93.8 | 94.7 | 95.8 | 94.3 | 90.8 | 89.0  | 139.6 |
| 10000                                                                                              | 99.2 | 102.6 | 103.6 | 102.2 | 99.9  | 98.1  | 96.1  | 94.8 | 95.2 | 95.6 | 93.8 | 91.0 | 88.3  | 142.9 |
| 12500                                                                                              | 96.6 | 99.2  | 101.8 | 102.5 | 102.3 | 101.6 | 98.9  | 96.3 | 95.6 | 94.5 | 92.3 | 89.3 | 86.8  | 143.9 |
| 16000                                                                                              | 93.9 | 98.3  | 98.7  | 100.3 | 101.4 | 101.2 | 100.0 | 98.3 | 96.6 | 94.0 | 91.6 | 88.0 | 85.0  | 144.4 |
| 20000                                                                                              | 92.2 | 95.1  | 96.5  | 97.3  | 98.3  | 99.8  | 99.7  | 98.3 | 96.6 | 93.2 | 90.8 | 87.0 | 83.4  | 144.6 |
| 25000                                                                                              | 89.0 | 93.0  | 94.3  | 95.4  | 96.3  | 97.6  | 98.3  | 97.8 | 97.8 | 93.7 | 89.8 | 86.6 | 81.1  | 145.6 |
| 31500                                                                                              | 83.3 | 87.5  | 89.1  | 90.5  | 91.5  | 93.1  | 93.3  | 92.7 | 92.8 | 90.1 | 86.5 | 82.2 | 75.9  | 143.9 |
| 40000                                                                                              | 80.0 | 85.4  | 87.2  | 88.2  | 89.5  | 90.3  | 89.9  | 89.6 | 90.2 | 86.3 | 83.9 | 79.9 | 73.2  | 145.2 |
| 50000                                                                                              | 77.0 | 81.7  | 84.3  | 84.7  | 86.4  | 88.1  | 86.8  | 86.2 | 86.5 | 83.0 | 79.5 | 76.0 | 68.9  | 146.5 |
| 63000                                                                                              | 73.0 | 78.9  | 81.4  | 80.8  | 83.4  | 84.5  | 82.7  | 83.1 | 83.3 | 79.7 | 75.8 | 71.5 | 64.1  | 148.4 |
| 80000                                                                                              | 66.5 | 75.7  | 77.8  | 75.6  | 78.4  | 80.2  | 78.1  | 77.4 | 78.5 | 76.0 | 71.5 | 64.9 | 55.9  | 150.6 |
| SPL 105.5 108.0 108.5 108.4 108.2 108.1 107.6 106.8 106.9 107.5 107.5 108.1 110.1 156.7            |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| PNL 115.3 116.8 116.4 116.6 114.5 114.1 115.5 116.2 117.2 119.4 118.8 116.5 116.5                  |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| PNLT 116.3 116.8 116.4 116.1 114.5 114.1 116.7 116.2 117.2 119.4 118.8 116.5 116.5                 |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| DBA 102.9 104.7 104.5 103.1 101.7 101.3 101.7 102.4 103.6 106.0 105.4 103.5 102.5                  |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166                                        |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| VEHICLE = ADH234 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| IAPLKA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 52.6 PCT    |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =                 |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| FNINT = LBS XNL = RPM XNH = RPM V8 = 1635.3 FPS AE8 = 4.0 SQ IN                                    |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1646.4 FPS AE18 = 20.4 SQ IN                              |      |       |       |       |       |       |       |      |      |      |      |      |       |       |
| RUNPT = 82F-400-1412 TAPE = X1412C TEST PT NO = 1412 NC = AE058 CORR FAN SPEED = RPM               |      |       |       |       |       |       |       |      |      |      |      |      |       |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1412 X1412F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 81.9  | 83.5  | 81.4  | 81.3  | 80.3  | 80.8  | 82.1  | 81.0  | 83.5  | 86.4  | 90.5  | 95.1  | 98.4  | 129.9 |
| 315   | 81.9  | 83.5  | 81.4  | 81.3  | 82.6  | 81.9  | 86.5  | 83.9  | 84.0  | 87.5  | 91.5  | 96.0  | 97.9  | 130.5 |
| 400   | 86.7  | 84.9  | 82.1  | 84.0  | 81.9  | 81.3  | 90.6  | 82.3  | 84.3  | 88.6  | 91.8  | 95.2  | 96.6  | 130.7 |
| 500   | 82.6  | 83.8  | 82.8  | 81.9  | 81.5  | 81.6  | 83.7  | 82.4  | 84.4  | 90.0  | 91.8  | 94.2  | 96.3  | 129.8 |
| 630   | 83.1  | 83.5  | 83.1  | 83.0  | 83.1  | 82.4  | 82.2  | 82.7  | 85.9  | 90.4  | 92.7  | 93.0  | 95.2  | 129.7 |
| 800   | 82.8  | 84.6  | 84.5  | 83.8  | 83.4  | 83.0  | 83.4  | 83.8  | 87.6  | 91.2  | 92.7  | 92.7  | 95.3  | 130.1 |
| 1000  | 84.2  | 85.3  | 84.8  | 84.3  | 86.1  | 85.4  | 84.7  | 84.7  | 87.9  | 91.7  | 92.0  | 90.2  | 94.7  | 130.1 |
| 1250  | 87.3  | 87.5  | 88.2  | 86.8  | 85.9  | 85.9  | 86.2  | 85.5  | 89.7  | 91.7  | 92.1  | 89.0  | 94.5  | 130.8 |
| 1600  | 86.7  | 89.4  | 87.3  | 86.7  | 87.2  | 87.1  | 87.0  | 87.7  | 91.0  | 94.3  | 93.6  | 90.1  | 95.1  | 132.1 |
| 2000  | 88.7  | 89.5  | 89.0  | 88.1  | 87.8  | 87.5  | 88.1  | 88.8  | 92.6  | 95.2  | 92.8  | 90.0  | 94.7  | 132.8 |
| 2500  | 89.7  | 88.9  | 89.4  | 88.9  | 89.5  | 88.9  | 89.2  | 90.0  | 93.4  | 95.8  | 93.6  | 90.3  | 95.1  | 133.5 |
| 3150  | 90.4  | 91.3  | 90.5  | 89.7  | 89.8  | 90.4  | 91.4  | 90.6  | 95.5  | 97.0  | 94.6  | 92.3  | 96.6  | 135.0 |
| 4000  | 91.8  | 92.2  | 91.5  | 90.5  | 91.4  | 91.2  | 92.6  | 93.0  | 97.0  | 98.4  | 96.9  | 94.4  | 98.8  | 136.6 |
| 5000  | 93.6  | 92.7  | 92.7  | 91.1  | 93.1  | 93.6  | 93.9  | 94.1  | 97.5  | 98.1  | 97.5  | 96.3  | 99.3  | 137.6 |
| 6300  | 97.7  | 97.1  | 95.3  | 93.6  | 96.3  | 95.3  | 95.8  | 96.3  | 95.7  | 96.3  | 95.1  | 94.6  | 99.7  | 138.8 |
| 8000  | 101.8 | 101.6 | 99.9  | 97.0  | 98.5  | 97.2  | 94.1  | 93.8  | 96.3  | 96.2  | 94.8  | 95.0  | 99.2  | 141.1 |
| 10000 | 105.3 | 106.4 | 103.8 | 101.2 | 103.4 | 101.1 | 97.6  | 94.8  | 97.0  | 95.4  | 93.5  | 93.6  | 98.0  | 145.1 |
| 12500 | 103.4 | 106.6 | 107.2 | 105.4 | 106.4 | 104.6 | 100.3 | 96.3  | 98.6  | 95.4  | 93.4  | 92.7  | 96.7  | 147.9 |
| 16000 | 102.9 | 104.8 | 106.5 | 106.2 | 105.5 | 104.2 | 101.4 | 98.3  | 99.0  | 95.1  | 93.0  | 92.2  | 95.6  | 148.9 |
| 20000 | 99.8  | 103.5 | 103.0 | 103.6 | 102.4 | 102.8 | 101.1 | 98.3  | 102.7 | 98.8  | 95.9  | 96.4  | 98.5  | 149.2 |
| 25000 | 97.5  | 99.7  | 100.2 | 100.0 | 100.3 | 100.6 | 100.4 | 99.1  | 98.2  | 95.5  | 92.6  | 91.9  | 93.4  | 148.9 |
| 31500 | 93.5  | 96.8  | 97.2  | 97.3  | 95.5  | 96.1  | 95.4  | 93.9  | 96.5  | 92.8  | 91.2  | 90.9  | 91.9  | 148.5 |
| 40000 | 87.0  | 90.5  | 91.1  | 91.5  | 93.5  | 93.3  | 92.0  | 90.9  | 93.2  | 90.0  | 87.5  | 87.8  | 88.3  | 148.5 |
| 50000 | 83.3  | 88.0  | 88.8  | 88.9  | 91.0  | 91.1  | 88.9  | 87.4  | 90.6  | 86.8  | 83.5  | 82.4  | 82.5  | 150.1 |
| 63000 | 82.1  | 85.6  | 86.8  | 85.6  | 88.0  | 87.5  | 84.7  | 84.0  | 87.1  | 84.4  | 80.5  | 77.0  | 75.0  | 152.3 |
| 80000 | 76.7  | 81.3  | 82.4  | 80.2  | 83.0  | 83.2  | 80.0  | 78.4  | 77.3  | 74.6  | 70.7  | 67.2  | 65.2  | 153.6 |
| OASPL | 110.9 | 112.7 | 112.6 | 111.6 | 111.9 | 110.9 | 108.9 | 107.0 | 109.3 | 108.4 | 107.2 | 107.0 | 110.4 | 160.1 |
| PNL   | 118.1 | 118.7 | 117.0 | 115.2 | 116.6 | 115.5 | 115.8 | 115.7 | 118.5 | 120.2 | 119.2 | 118.1 | 121.9 |       |
| PNLT  | 118.8 | 118.7 | 117.0 | 115.2 | 116.6 | 115.5 | 116.7 | 115.7 | 118.5 | 120.2 | 119.2 | 118.1 | 121.9 |       |
| DBA   | 198.2 | 202.5 | 203.6 | 201.6 | 204.4 | 204.5 | 201.5 | 200.0 | 200.8 | 198.0 | 194.1 | 191.0 | 189.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                      |                 |                   |
|-----------------|----------------------|------------------------|----------------------|-----------------|-------------------|
| VEHICL = ADH234 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 83.00       | PAMB HG = 29.50 | RELHUM = 52.6 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =       | NBFR =            |
| FNINI =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1635.3 FPS  | AE8 =           | 4.0 SQ IN         |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1646.4 FPS | AE18 =          | 20.4 SQ IN        |

RUNPT = 82F-400-1412 TAPE = X1412F TEST PT NO = 1412 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, S8 2400.0 FT. SL

IDENTIFICATION - 82F-400-1412 X14121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120.  | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|-------|
| 50    | 64.9 | 64.6 | 62.9  | 65.5  | 63.8  | 63.3  | 72.5  | 63.8 | 65.1  | 68.3 | 69.9 | 71.1 | 69.3 | 148.3 |
| 63    | 60.7 | 63.5 | 63.5  | 63.3  | 63.4  | 63.6  | 65.6  | 63.9 | 65.1  | 69.7 | 69.9 | 70.2 | 68.8 | 147.4 |
| 80    | 61.1 | 63.1 | 63.8  | 64.4  | 64.9  | 64.3  | 64.0  | 64.1 | 66.6  | 70.0 | 70.7 | 68.9 | 67.6 | 147.3 |
| 100   | 60.8 | 64.2 | 65.1  | 65.2  | 65.2  | 64.9  | 65.1  | 65.2 | 68.2  | 70.8 | 70.7 | 68.4 | 67.6 | 147.7 |
| 125   | 62.1 | 64.8 | 65.3  | 65.6  | 67.8  | 67.2  | 66.4  | 66.0 | 68.4  | 71.2 | 69.9 | 65.8 | 66.8 | 147.7 |
| 160   | 65.0 | 66.8 | 68.7  | 68.0  | 67.5  | 67.6  | 67.8  | 66.7 | 70.2  | 71.0 | 69.8 | 64.4 | 66.2 | 148.4 |
| 200   | 64.2 | 68.5 | 67.5  | 67.7  | 68.6  | 68.7  | 68.4  | 68.7 | 71.2  | 73.4 | 71.0 | 65.1 | 66.4 | 149.7 |
| 250   | 65.8 | 68.3 | 69.0  | 68.8  | 69.0  | 68.8  | 69.4  | 69.6 | 72.6  | 74.1 | 69.9 | 64.6 | 65.3 | 150.4 |
| 315   | 66.4 | 67.4 | 69.1  | 69.4  | 70.4  | 70.1  | 70.1  | 70.5 | 73.1  | 74.3 | 70.3 | 64.4 | 64.8 | 151.1 |
| 400   | 66.6 | 69.4 | 69.8  | 69.8  | 70.4  | 71.2  | 72.1  | 70.8 | 74.8  | 75.0 | 70.8 | 65.7 | 65.4 | 152.6 |
| 500   | 67.5 | 69.9 | 70.6  | 70.4  | 71.8  | 71.8  | 73.0  | 72.9 | 76.0  | 76.1 | 72.6 | 67.2 | 66.6 | 154.2 |
| 630   | 68.8 | 70.0 | 71.4  | 70.7  | 73.2  | 73.9  | 74.0  | 73.7 | 76.2  | 75.4 | 72.7 | 68.3 | 66.0 | 155.2 |
| 800   | 72.5 | 74.0 | 73.7  | 73.0  | 76.2  | 75.3  | 75.7  | 75.7 | 74.1  | 73.2 | 69.8 | 66.0 | 65.3 | 156.4 |
| 1000  | 76.1 | 78.3 | 78.1  | 76.2  | 78.2  | 77.2  | 73.8  | 72.9 | 74.5  | 72.8 | 69.1 | 65.7 | 63.7 | 158.7 |
| 1250  | 79.1 | 82.7 | 81.8  | 80.2  | 83.0  | 80.9  | 77.2  | 73.8 | 74.9  | 71.7 | 67.3 | 63.5 | 61.0 | 162.7 |
| 1600  | 76.3 | 82.2 | 84.7  | 84.0  | 85.7  | 84.1  | 79.6  | 74.9 | 76.1  | 71.1 | 66.3 | 61.3 | 57.4 | 165.5 |
| 2000  | 74.8 | 79.9 | 83.6  | 84.6  | 84.6  | 83.5  | 80.5  | 76.7 | 76.1  | 70.1 | 64.9 | 59.1 | 53.2 | 166.5 |
| 2500  | 70.0 | 77.4 | 79.3  | 81.4  | 81.0  | 81.7  | 79.7  | 76.0 | 79.0  | 72.7 | 66.1 | 60.5 | 51.2 | 166.8 |
| 3150  | 64.3 | 71.1 | 74.5  | 76.2  | 77.5  | 78.1  | 77.6  | 75.3 | 72.6  | 66.9 | 59.4 | 51.0 | 37.7 | 166.5 |
| 4000  | 54.1 | 63.5 | 67.7  | 70.3  | 69.7  | 70.7  | 69.6  | 66.8 | 67.2  | 59.5 | 51.8 | 41.0 | 21.7 | 166.1 |
| 5000  | 37.8 | 49.6 | 55.5  | 59.0  | 62.7  | 63.1  | 61.3  | 58.4 | 57.6  | 49.1 | 38.3 | 24.3 |      | 166.1 |
| 6300  | 16.3 | 32.9 | 41.1  | 45.6  | 50.1  | 51.1  | 48.0  | 44.1 | 42.8  | 31.7 | 16.5 |      |      | 167.7 |
| 8000  |      | 5.7  | 17.7  | 23.1  | 29.0  | 29.7  | 25.7  | 21.5 | 18.0  | 4.5  |      |      |      | 169.9 |
| 10000 |      |      |       |       |       |       |       |      |       |      |      |      |      | 171.2 |
| 12500 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 16000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 20000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 25000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 31500 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 40000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 50000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 63000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| 80000 |      |      |       |       |       |       |       |      |       |      |      |      |      |       |
| GASPL | 84.3 | 88.3 | 89.8  | 89.9  | 91.0  | 90.1  | 87.8  | 85.3 | 86.7  | 85.4 | 82.6 | 79.2 | 78.3 | 177.7 |
| PNL   | 93.3 | 98.2 | 100.7 | 101.4 | 102.0 | 101.4 | 99.7  | 97.0 | 98.7  | 94.7 | 89.7 | 84.4 | 81.5 |       |
| PNLT  | 93.3 | 98.7 | 101.2 | 101.9 | 102.0 | 102.0 | 100.2 | 97.0 | 100.3 | 96.1 | 91.0 | 86.2 | 82.8 |       |
| DBA   | 84.3 | 88.8 | 90.5  | 90.6  | 91.6  | 90.7  | 88.0  | 85.0 | 85.9  | 82.6 | 78.4 | 73.8 | 71.9 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                          |                 |                 |                   |
|-----------------|----------------------|--------------------------|-----------------|-----------------|-------------------|
| VEHICL = ADH234 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH     | CONFIG = 4      | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE   | TAMB F = 83.00  | PAMB HG = 29.50 | RELHUM = 52.6 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 2400.0 FT | EXT CONFIG = SL | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FNIN1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1635.3 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 1646.4 FPS | AE18 = 20.4 SQ IN |

RUNPT = 82F-400-1412 TAPE = X14121 TEST PT NO = 1412 NC = AE058 CORR FAN SPEED = RPM

360

PT185-08

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1413 X1413C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.0  | 81.8  | 78.3  | 77.4  | 81.5  | 78.3  | 77.7  | 80.1  | 80.6  | 80.2  | 84.5  | 86.7  | 89.4  | 123.9 |
| 63    | 88.4  | 89.2  | 85.0  | 82.3  | 89.4  | 84.7  | 84.4  | 84.5  | 86.7  | 87.8  | 83.9  | 90.1  | 92.3  | 129.2 |
| 80    | 83.4  | 88.0  | 84.0  | 85.8  | 85.1  | 86.5  | 87.9  | 87.3  | 87.7  | 88.3  | 87.9  | 91.6  | 94.3  | 129.8 |
| 100   | 84.5  | 88.8  | 85.0  | 86.3  | 87.7  | 87.3  | 87.7  | 89.8  | 88.5  | 90.6  | 93.0  | 96.4  | 99.1  | 132.6 |
| 125   | 82.4  | 85.2  | 87.0  | 88.2  | 88.6  | 89.0  | 89.1  | 89.2  | 89.2  | 91.0  | 96.2  | 100.6 | 102.8 | 135.2 |
| 160   | 82.4  | 79.2  | 84.7  | 83.8  | 85.4  | 86.2  | 89.6  | 86.8  | 87.7  | 90.5  | 96.2  | 100.4 | 104.5 | 135.3 |
| 200   | 82.8  | 83.9  | 84.1  | 85.2  | 86.3  | 87.4  | 89.8  | 90.4  | 92.1  | 92.9  | 97.8  | 102.8 | 106.4 | 137.4 |
| 250   | 81.3  | 87.6  | 84.8  | 85.4  | 86.5  | 88.8  | 90.7  | 92.1  | 92.6  | 97.1  | 102.8 | 106.7 | 109.1 | 140.7 |
| 315   | 84.4  | 85.7  | 84.9  | 88.0  | 89.3  | 89.7  | 93.1  | 92.7  | 94.9  | 98.0  | 102.9 | 107.8 | 110.2 | 141.6 |
| 400   | 82.0  | 85.8  | 86.3  | 86.1  | 88.2  | 89.5  | 99.7  | 93.3  | 95.0  | 100.3 | 104.0 | 109.2 | 110.6 | 142.8 |
| 500   | 83.5  | 85.8  | 86.6  | 87.3  | 88.7  | 89.5  | 92.4  | 93.3  | 95.8  | 100.4 | 104.3 | 108.4 | 109.6 | 142.0 |
| 630   | 83.7  | 86.2  | 88.0  | 88.5  | 89.4  | 90.7  | 91.1  | 93.8  | 95.7  | 101.5 | 103.9 | 107.4 | 108.3 | 141.4 |
| 800   | 84.7  | 86.5  | 88.5  | 88.8  | 89.9  | 91.2  | 92.6  | 94.8  | 96.2  | 101.8 | 103.7 | 104.9 | 105.0 | 140.1 |
| 1000  | 87.9  | 88.0  | 90.0  | 89.5  | 91.4  | 92.0  | 92.9  | 94.8  | 97.5  | 101.1 | 102.9 | 103.1 | 103.0 | 139.4 |
| 1250  | 87.5  | 90.6  | 90.1  | 91.7  | 91.7  | 93.1  | 94.0  | 95.4  | 97.6  | 101.4 | 102.3 | 100.7 | 101.0 | 138.9 |
| 1600  | 88.3  | 91.4  | 91.4  | 92.0  | 92.5  | 93.1  | 94.4  | 96.0  | 98.4  | 100.7 | 102.3 | 100.0 | 99.2  | 138.8 |
| 2000  | 90.5  | 91.2  | 92.3  | 92.2  | 92.1  | 93.4  | 94.7  | 96.0  | 98.1  | 100.9 | 100.6 | 99.0  | 98.0  | 138.4 |
| 2500  | 90.0  | 92.3  | 92.8  | 92.6  | 93.5  | 94.3  | 94.8  | 97.4  | 99.5  | 102.0 | 100.3 | 99.4  | 97.6  | 139.2 |
| 3150  | 91.9  | 93.2  | 93.7  | 93.7  | 93.3  | 95.1  | 96.0  | 97.5  | 99.3  | 101.9 | 101.6 | 100.6 | 98.8  | 139.8 |
| 4000  | 92.3  | 94.2  | 95.3  | 94.5  | 94.2  | 94.9  | 96.0  | 98.4  | 100.5 | 102.2 | 102.2 | 102.0 | 101.5 | 140.7 |
| 5000  | 96.3  | 97.8  | 98.1  | 96.6  | 95.1  | 95.8  | 96.7  | 98.8  | 101.7 | 102.6 | 103.9 | 104.5 | 104.5 | 142.5 |
| 6300  | 100.2 | 102.2 | 100.3 | 99.2  | 97.5  | 97.0  | 97.2  | 99.7  | 101.2 | 102.8 | 104.3 | 106.1 | 106.6 | 144.1 |
| 8000  | 101.0 | 104.3 | 104.2 | 102.9 | 100.3 | 98.6  | 98.3  | 99.4  | 100.9 | 102.1 | 104.2 | 105.2 | 105.6 | 145.4 |
| 10000 | 100.2 | 103.9 | 105.4 | 106.3 | 104.5 | 102.7 | 99.5  | 99.1  | 100.8 | 101.8 | 102.6 | 104.8 | 105.1 | 147.0 |
| 12500 | 99.3  | 100.6 | 103.2 | 105.4 | 105.0 | 105.0 | 101.8 | 99.7  | 100.0 | 99.7  | 100.5 | 102.3 | 103.8 | 147.2 |
| 16000 | 96.2  | 98.8  | 100.0 | 101.6 | 103.5 | 103.7 | 102.5 | 100.9 | 100.1 | 97.6  | 99.4  | 100.5 | 100.8 | 147.0 |
| 20000 | 94.1  | 95.9  | 98.2  | 99.4  | 100.4 | 101.5 | 101.5 | 99.9  | 99.4  | 95.9  | 97.3  | 98.2  | 98.6  | 146.8 |
| 25000 | 91.6  | 94.2  | 95.9  | 97.6  | 98.3  | 99.4  | 99.1  | 98.5  | 98.4  | 95.7  | 94.8  | 96.2  | 93.7  | 147.3 |
| 31500 | 85.5  | 88.8  | 90.5  | 93.3  | 93.4  | 94.7  | 93.5  | 93.3  | 93.8  | 91.7  | 90.3  | 90.9  | 87.7  | 145.5 |
| 40000 | 82.8  | 86.9  | 88.6  | 90.1  | 91.4  | 92.1  | 91.1  | 90.5  | 90.7  | 89.3  | 88.2  | 88.4  | 84.6  | 147.0 |
| 50000 | 80.5  | 84.1  | 86.7  | 87.5  | 89.5  | 90.1  | 88.5  | 87.7  | 88.3  | 87.1  | 84.7  | 86.0  | 82.2  | 149.0 |
| 63000 | 77.3  | 82.4  | 84.9  | 84.6  | 86.7  | 87.7  | 85.3  | 85.8  | 86.4  | 84.9  | 83.7  | 83.4  | 78.1  | 151.9 |
| 80000 | 72.4  | 80.1  | 83.4  | 81.1  | 84.0  | 85.1  | 81.5  | 81.7  | 82.6  | 82.4  | 81.0  | 81.1  | 73.1  | 155.8 |

CASPL 108.2 110.7 111.5 112.1 111.6 111.6 111.1 111.0 112.3 114.2 115.9 118.2 119.3 160.8  
PNL 119.5 121.6 121.3 120.9 120.0 119.8 120.8 122.3 124.4 126.6 127.8 129.2 129.7  
PNLT 119.5 122.3 121.3 121.4 120.0 119.8 121.9 122.3 124.4 126.6 127.8 129.2 129.7  
DBA 106.1 108.7 108.8 108.5 107.2 107.0 107.4 108.8 110.9 113.3 114.5 115.6 116.1

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|            |              |             |          |              |              |            |         |                  |        |            |          |
|------------|--------------|-------------|----------|--------------|--------------|------------|---------|------------------|--------|------------|----------|
| VERTCL =   | ADR212       | TEST DATE = | 08-16-82 | LOCAT =      | C41 ANECH CH | CONFIG =   | 4       | MODEL =          | AX     | FLTVEL =   | 0. FPS   |
| IAPLHA =   | SB59         | IEGA =      | NO       | PWL AREA =   | FULL SPHERE  | TAMB F =   | 76.50   | PAMB HG =        | 29.45  | RELHUM =   | 82.8 PCT |
| WIND DIR = |              | DEG         |          | WIND VEL =   | MPH          | EXT DIST = | 40.0 FT | EXT CONFIG =     | ARC    | MIKE HT =  | NBFR =   |
| FNINT =    | LBS          | XNL =       |          | RPM          | XNH =        | RPM        | V8 =    | 1646.1 FPS       | AE8 =  | 4.0 SQ IN  |          |
| FNRAMB =   | LBS          | XNLR =      |          | RPM          | XNHR =       | RPM        | V18 =   | 1695.1 FPS       | AE18 = | 20.4 SQ IN |          |
| RUNPT =    | 82F-ZER-1413 | TAPE =      | X1413C   | TEST PT NO = | 1413         | NC =       | AE058   | CORR FAN SPEED = |        | RPM        |          |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1413 X1413F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 82.0  | 81.8  | 78.3  | 77.4  | 81.5  | 78.3  | 77.7  | 80.1  | 80.6  | 80.2  | 84.5  | 86.7  | 89.4  | 123.9 |
| 63    | 88.4  | 89.2  | 85.0  | 82.3  | 89.4  | 84.7  | 84.4  | 84.5  | 86.7  | 87.8  | 83.9  | 90.1  | 92.3  | 129.2 |
| 80    | 83.4  | 88.0  | 84.0  | 85.8  | 85.1  | 86.5  | 87.9  | 87.3  | 87.7  | 88.3  | 87.9  | 91.6  | 94.3  | 129.6 |
| 100   | 84.5  | 88.8  | 85.0  | 86.3  | 87.7  | 87.3  | 87.7  | 89.8  | 88.5  | 90.6  | 93.0  | 96.4  | 99.1  | 132.6 |
| 125   | 82.4  | 85.2  | 87.0  | 88.2  | 88.6  | 89.0  | 89.1  | 89.2  | 89.2  | 91.0  | 96.2  | 100.6 | 102.8 | 135.2 |
| 160   | 82.4  | 79.2  | 84.7  | 83.8  | 85.4  | 86.2  | 89.6  | 86.8  | 87.7  | 90.5  | 96.2  | 100.4 | 104.5 | 135.3 |
| 200   | 82.8  | 83.9  | 84.1  | 85.2  | 86.3  | 87.4  | 89.8  | 90.4  | 92.1  | 92.9  | 97.8  | 102.8 | 106.4 | 137.4 |
| 250   | 81.3  | 87.6  | 84.8  | 85.4  | 86.5  | 88.8  | 90.7  | 92.1  | 92.6  | 97.1  | 102.8 | 106.7 | 109.1 | 140.7 |
| 315   | 84.4  | 85.7  | 84.9  | 88.0  | 89.3  | 89.7  | 93.1  | 92.7  | 94.9  | 98.0  | 102.9 | 107.8 | 110.2 | 141.6 |
| 400   | 82.0  | 85.8  | 86.3  | 86.1  | 88.2  | 89.5  | 99.7  | 93.3  | 95.0  | 100.3 | 104.0 | 109.2 | 110.6 | 142.8 |
| 500   | 83.5  | 85.8  | 86.6  | 87.3  | 88.7  | 89.5  | 92.4  | 93.3  | 95.8  | 100.4 | 104.3 | 108.4 | 109.6 | 142.0 |
| 630   | 83.7  | 86.2  | 88.0  | 88.5  | 89.4  | 90.7  | 91.1  | 93.8  | 95.7  | 101.5 | 103.9 | 107.4 | 108.3 | 141.4 |
| 800   | 84.7  | 86.5  | 88.5  | 88.8  | 89.9  | 91.2  | 92.6  | 94.8  | 96.2  | 101.8 | 103.7 | 104.9 | 105.0 | 140.1 |
| 1000  | 87.9  | 88.0  | 90.0  | 89.5  | 91.4  | 92.0  | 92.9  | 94.8  | 97.5  | 101.1 | 102.9 | 103.1 | 103.0 | 139.4 |
| 1250  | 87.5  | 90.6  | 90.1  | 91.7  | 91.7  | 93.1  | 94.0  | 95.4  | 97.6  | 101.4 | 102.3 | 100.7 | 101.0 | 138.9 |
| 1600  | 88.3  | 91.4  | 91.4  | 92.0  | 92.5  | 93.1  | 94.4  | 96.0  | 98.4  | 100.7 | 102.3 | 100.0 | 99.2  | 138.8 |
| 2000  | 90.5  | 91.2  | 92.3  | 92.2  | 92.1  | 93.4  | 94.7  | 96.0  | 98.1  | 100.9 | 100.6 | 99.0  | 98.0  | 138.4 |
| 2500  | 90.0  | 92.3  | 92.8  | 92.6  | 93.5  | 94.3  | 94.8  | 97.4  | 99.5  | 102.0 | 100.3 | 99.4  | 97.6  | 139.2 |
| 3150  | 91.9  | 93.2  | 93.7  | 93.7  | 93.3  | 95.1  | 96.0  | 97.5  | 99.3  | 101.9 | 101.6 | 100.6 | 98.8  | 139.8 |
| 4000  | 92.3  | 94.2  | 95.8  | 94.5  | 94.2  | 94.9  | 96.0  | 98.4  | 100.5 | 102.2 | 102.2 | 102.0 | 101.5 | 140.7 |
| 5000  | 96.3  | 97.8  | 98.1  | 96.6  | 95.1  | 95.8  | 96.7  | 98.8  | 101.7 | 102.6 | 103.9 | 104.5 | 104.5 | 142.5 |
| 6300  | 100.2 | 102.2 | 100.3 | 99.2  | 97.5  | 97.0  | 97.2  | 99.7  | 101.2 | 102.8 | 104.3 | 106.1 | 106.6 | 144.1 |
| 8000  | 101.0 | 104.3 | 104.2 | 102.9 | 100.3 | 98.6  | 98.3  | 99.4  | 100.9 | 102.1 | 104.2 | 105.2 | 105.6 | 145.4 |
| 10000 | 100.2 | 103.9 | 105.4 | 106.3 | 104.5 | 102.7 | 99.5  | 99.1  | 100.8 | 101.8 | 102.6 | 104.8 | 105.1 | 147.0 |
| 12500 | 99.3  | 100.6 | 103.2 | 105.4 | 105.0 | 105.0 | 101.8 | 99.7  | 100.0 | 99.7  | 100.5 | 102.3 | 103.8 | 147.2 |
| 16000 | 96.2  | 98.8  | 100.0 | 101.6 | 103.5 | 103.7 | 102.5 | 100.9 | 100.1 | 97.6  | 99.4  | 100.5 | 100.8 | 147.0 |
| 20000 | 94.1  | 95.9  | 98.2  | 99.4  | 100.4 | 101.5 | 101.5 | 99.9  | 99.4  | 95.9  | 97.3  | 98.2  | 98.6  | 146.8 |
| 25000 | 91.6  | 94.2  | 95.9  | 97.6  | 98.3  | 99.4  | 99.1  | 98.5  | 98.4  | 95.7  | 94.8  | 96.2  | 93.7  | 147.3 |
| 31500 | 85.5  | 88.8  | 90.5  | 93.3  | 93.4  | 94.7  | 93.5  | 93.3  | 93.8  | 91.7  | 90.3  | 90.9  | 87.7  | 145.5 |
| 40000 | 82.8  | 86.9  | 88.6  | 90.1  | 91.4  | 92.1  | 91.1  | 90.5  | 90.7  | 89.3  | 88.2  | 88.4  | 84.6  | 147.0 |
| 50000 | 80.5  | 84.1  | 86.7  | 87.5  | 89.5  | 90.1  | 88.5  | 87.7  | 88.3  | 87.1  | 84.7  | 86.0  | 82.2  | 149.0 |
| 63000 | 77.3  | 82.4  | 84.9  | 84.6  | 86.7  | 87.7  | 85.3  | 85.8  | 86.4  | 84.9  | 83.7  | 83.4  | 78.1  | 151.9 |
| 80000 | 72.4  | 80.1  | 83.4  | 81.1  | 84.0  | 85.1  | 81.5  | 81.7  | 82.6  | 82.4  | 81.0  | 81.1  | 73.1  | 155.8 |
| OSPL  | 108.2 | 110.7 | 111.5 | 112.1 | 111.6 | 111.6 | 111.1 | 111.0 | 112.3 | 114.2 | 115.9 | 118.2 | 119.3 | 160.8 |
| PNL   | 119.5 | 121.6 | 121.3 | 120.9 | 120.0 | 119.8 | 120.8 | 122.3 | 124.4 | 126.6 | 127.8 | 129.2 | 129.7 |       |
| PNLT  | 119.5 | 122.3 | 121.3 | 121.4 | 120.0 | 119.8 | 121.9 | 122.3 | 124.4 | 126.6 | 127.8 | 129.2 | 129.7 |       |
| DBA   | 193.8 | 200.9 | 204.1 | 202.1 | 204.9 | 205.9 | 202.6 | 202.9 | 203.7 | 203.2 | 201.8 | 201.9 | 194.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NA-3-23166

|                 |                      |                        |                  |                 |                   |
|-----------------|----------------------|------------------------|------------------|-----------------|-------------------|
| VEHICL = ADH212 | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4       | MODEL = AX      | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 76.50   | PAMB HG = 29.45 | RELHUM = 82.8 PCT |
| WIND DIR =      | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FN1N1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1646.1 FPS  | AE8 = 4.0 SQ IN   |
| FN1RMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 1695.1 FPS | AE18 = 20.4 SQ IN |

RUNPT = 82F-ZER-1413 TAPE = X1413F TEST PT NO = 1413 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1413 XI4131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|------|------|------|------|------|-------|
| 50    | 60.1 | 65.4 | 67.0 | 67.5  | 70.0  | 71.5  | 81.5  | 74.8  | 75.8 | 80.0 | 82.1 | 85.1 | 83.2 | 160.4 |
| 63    | 61.6 | 65.4 | 67.3 | 68.8  | 70.5  | 71.5  | 74.3  | 74.8  | 76.5 | 80.0 | 82.4 | 84.3 | 82.2 | 159.6 |
| 80    | 61.7 | 65.8 | 68.7 | 69.9  | 71.2  | 72.7  | 72.9  | 75.2  | 76.4 | 81.2 | 82.0 | 83.2 | 80.7 | 159.0 |
| 100   | 62.7 | 66.0 | 69.1 | 70.2  | 71.7  | 73.2  | 74.4  | 76.2  | 76.9 | 81.4 | 81.7 | 80.6 | 77.3 | 157.7 |
| 125   | 65.8 | 67.4 | 70.6 | 70.8  | 73.1  | 73.8  | 74.6  | 76.1  | 78.1 | 80.5 | 80.8 | 78.7 | 75.1 | 157.0 |
| 160   | 65.2 | 69.9 | 70.5 | 72.9  | 73.3  | 74.8  | 75.5  | 76.5  | 78.0 | 80.7 | 80.0 | 76.0 | 72.7 | 156.5 |
| 200   | 65.7 | 70.5 | 71.6 | 73.0  | 73.9  | 74.7  | 75.9  | 77.0  | 78.6 | 79.8 | 79.7 | 75.0 | 70.5 | 156.4 |
| 250   | 67.6 | 70.0 | 72.4 | 73.0  | 73.3  | 74.8  | 75.9  | 76.8  | 78.1 | 79.7 | 77.8 | 73.6 | 68.6 | 156.0 |
| 315   | 66.7 | 70.7 | 72.5 | 73.1  | 74.4  | 75.4  | 75.7  | 77.9  | 79.2 | 80.5 | 77.0 | 73.4 | 67.4 | 156.8 |
| 400   | 68.1 | 71.2 | 73.0 | 73.9  | 74.0  | 75.9  | 76.7  | 77.7  | 78.6 | 80.0 | 77.8 | 73.9 | 67.6 | 157.4 |
| 500   | 68.0 | 71.9 | 74.9 | 74.4  | 74.6  | 75.5  | 76.4  | 78.2  | 79.5 | 79.9 | 77.9 | 74.7 | 69.3 | 158.3 |
| 630   | 71.5 | 75.1 | 76.8 | 76.2  | 75.2  | 76.1  | 76.8  | 78.4  | 80.4 | 79.9 | 79.2 | 76.5 | 71.2 | 160.1 |
| 800   | 74.9 | 79.2 | 78.7 | 78.5  | 77.4  | 77.0  | 77.1  | 79.0  | 79.5 | 79.7 | 79.1 | 77.5 | 72.2 | 161.7 |
| 1000  | 75.3 | 81.0 | 82.3 | 82.1  | 80.1  | 78.6  | 78.1  | 78.6  | 79.0 | 78.8 | 78.5 | 75.9 | 70.1 | 163.0 |
| 1250  | 74.0 | 80.2 | 83.4 | 85.3  | 84.0  | 82.5  | 79.0  | 78.1  | 78.7 | 78.1 | 76.4 | 74.7 | 68.1 | 164.6 |
| 1600  | 72.2 | 76.3 | 80.7 | 84.1  | 84.3  | 84.6  | 81.1  | 78.4  | 77.5 | 75.4 | 73.4 | 70.8 | 64.5 | 164.8 |
| 2000  | 68.2 | 73.9 | 77.1 | 80.0  | 82.6  | 83.1  | 81.7  | 79.3  | 77.3 | 72.7 | 71.4 | 67.4 | 58.5 | 164.6 |
| 2500  | 64.2 | 69.7 | 74.5 | 77.1  | 79.0  | 80.3  | 80.1  | 77.6  | 75.6 | 69.7 | 67.5 | 62.2 | 51.3 | 164.4 |
| 3150  | 58.4 | 65.6 | 70.3 | 73.9  | 75.5  | 77.0  | 76.3  | 74.8  | 72.8 | 67.2 | 61.6 | 55.3 | 38.0 | 164.9 |
| 4000  | 46.1 | 55.5 | 61.1 | 66.2  | 67.6  | 69.4  | 67.7  | 66.2  | 64.3 | 58.4 | 50.8 | 41.0 | 17.5 | 163.1 |
| 5000  | 33.6 | 46.0 | 53.0 | 57.6  | 60.7  | 61.9  | 60.4  | 58.0  | 55.0 | 48.4 | 39.0 | 24.9 |      | 164.6 |
| 6300  | 13.5 | 29.0 | 38.9 | 44.3  | 48.7  | 50.0  | 47.6  | 44.5  | 40.6 | 32.0 | 17.7 |      |      | 166.6 |
| 8000  |      | 2.5  | 15.9 | 22.0  | 27.8  | 29.8  | 26.4  | 23.3  | 17.3 | 5.0  |      |      |      | 169.5 |
| 10000 |      |      |      |       |       | 0.9   |       |       |      |      |      |      |      | 173.4 |
| 12500 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 16000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 20000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 25000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 31500 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 40000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 50000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 63000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| 80000 |      |      |      |       |       |       |       |       |      |      |      |      |      |       |
| GASPL | 82.3 | 87.1 | 89.4 | 90.9  | 90.9  | 91.1  | 90.6  | 90.2  | 90.8 | 92.0 | 91.8 | 91.3 | 88.4 | 178.2 |
| PNL   | 90.1 | 94.8 | 98.3 | 100.8 | 101.5 | 102.0 | 101.4 | 100.1 | 99.4 | 97.7 | 96.1 | 93.7 | 88.0 |       |
| PNLT  | 90.1 | 95.4 | 98.8 | 100.8 | 101.5 | 102.0 | 101.4 | 100.1 | 99.4 | 98.3 | 97.1 | 93.7 | 88.0 |       |
| DBA   | 81.5 | 86.6 | 89.1 | 90.9  | 90.9  | 90.9  | 89.3  | 88.2  | 88.0 | 87.1 | 85.8 | 83.3 | 77.6 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.583      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH212      TEST DATE = 08-16-82      LOCAT = C41 ANECH CH      CONFIG = 4      MODEL = AX      FLTVEL = 0. FPS  
IAPLHA = SB59      IEQA = NO      PWL AREA = FULL SPHERE      TAMB F = 76.50      PAMB HG = 29.45      RELHUM = 82.8 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1646.1 FPS      AE8 = 4.0 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 1695.1 FPS      AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1413      TAPE = XI4131      TEST PT NO = 1413      NC = AEC58      CORR FAN SPEED =      RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1415 X1415C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.5  | 77.6  | 76.3  | 76.6  | 81.0  | 77.8  | 77.5  | 80.6  | 80.8  | 78.9  | 84.5  | 86.5  | 88.1  | 123.3 |
| 63    | 90.4  | 86.7  | 83.2  | 84.3  | 89.9  | 86.0  | 87.6  | 86.3  | 87.2  | 82.3  | 84.4  | 86.6  | 92.5  | 129.3 |
| 80    | 83.4  | 87.5  | 84.2  | 85.8  | 85.4  | 87.0  | 87.4  | 87.3  | 87.5  | 88.1  | 87.9  | 90.9  | 94.3  | 129.7 |
| 100   | 85.0  | 89.3  | 84.8  | 86.6  | 88.2  | 87.8  | 88.2  | 90.6  | 89.0  | 90.6  | 93.0  | 96.7  | 99.6  | 133.0 |
| 125   | 82.7  | 85.4  | 87.5  | 88.0  | 89.1  | 89.2  | 89.1  | 89.7  | 89.5  | 91.8  | 96.4  | 100.6 | 103.0 | 135.4 |
| 160   | 82.7  | 80.0  | 85.0  | 84.0  | 86.1  | 86.5  | 90.1  | 87.0  | 87.7  | 90.8  | 96.7  | 100.9 | 104.8 | 135.7 |
| 200   | 83.6  | 84.9  | 84.6  | 85.4  | 86.3  | 87.1  | 90.3  | 90.9  | 92.1  | 92.7  | 98.1  | 102.8 | 106.9 | 137.7 |
| 250   | 81.5  | 87.6  | 85.1  | 85.6  | 87.0  | 88.6  | 91.0  | 92.1  | 93.3  | 97.1  | 102.8 | 107.0 | 109.4 | 140.8 |
| 315   | 84.4  | 86.2  | 84.9  | 86.5  | 89.1  | 89.7  | 92.6  | 93.2  | 94.9  | 98.7  | 103.1 | 107.8 | 110.2 | 141.7 |
| 400   | 82.7  | 85.8  | 86.5  | 86.6  | 88.4  | 89.3  | 100.2 | 93.6  | 95.5  | 100.3 | 104.7 | 108.9 | 110.3 | 142.8 |
| 500   | 83.7  | 86.0  | 86.8  | 87.3  | 88.2  | 90.0  | 92.4  | 93.3  | 96.6  | 100.6 | 104.5 | 108.9 | 109.8 | 142.4 |
| 630   | 83.9  | 87.0  | 88.2  | 88.8  | 89.6  | 91.0  | 91.6  | 94.3  | 96.0  | 101.5 | 103.9 | 107.1 | 108.3 | 141.4 |
| 800   | 85.2  | 87.0  | 89.0  | 89.5  | 90.1  | 91.5  | 93.1  | 95.5  | 97.3  | 101.8 | 103.7 | 104.9 | 105.3 | 140.3 |
| 1000  | 88.2  | 88.5  | 90.5  | 90.3  | 90.9  | 92.2  | 93.1  | 95.0  | 97.7  | 101.6 | 102.9 | 103.1 | 102.8 | 139.5 |
| 1250  | 88.0  | 90.8  | 90.3  | 91.5  | 92.2  | 93.6  | 94.5  | 95.4  | 97.6  | 101.7 | 102.0 | 100.7 | 100.5 | 139.0 |
| 1600  | 88.8  | 91.4  | 91.4  | 92.7  | 93.0  | 93.1  | 94.4  | 96.0  | 98.4  | 101.4 | 102.1 | 100.0 | 99.2  | 139.0 |
| 2000  | 90.5  | 91.4  | 92.6  | 92.5  | 92.6  | 93.2  | 94.9  | 96.2  | 97.8  | 101.1 | 100.6 | 99.2  | 97.5  | 138.5 |
| 2500  | 91.0  | 92.8  | 92.8  | 93.1  | 94.2  | 94.1  | 95.0  | 97.6  | 99.7  | 102.3 | 100.8 | 99.6  | 97.6  | 139.5 |
| 3150  | 92.1  | 93.7  | 94.2  | 94.2  | 93.6  | 95.4  | 96.5  | 97.2  | 99.6  | 102.1 | 102.1 | 100.3 | 98.8  | 140.0 |
| 4000  | 92.8  | 94.0  | 96.6  | 95.5  | 94.7  | 95.2  | 96.3  | 98.4  | 100.5 | 102.9 | 102.2 | 101.7 | 101.0 | 141.0 |
| 5000  | 97.3  | 98.5  | 98.6  | 97.1  | 95.6  | 96.1  | 96.7  | 98.5  | 101.5 | 102.8 | 103.9 | 104.2 | 104.0 | 142.5 |
| 6300  | 100.9 | 103.2 | 101.6 | 99.9  | 98.5  | 97.5  | 97.5  | 99.7  | 101.4 | 103.0 | 104.6 | 105.9 | 105.6 | 144.4 |
| 8000  | 101.8 | 105.4 | 105.7 | 103.9 | 101.6 | 99.1  | 97.3  | 99.2  | 100.9 | 102.4 | 103.7 | 104.5 | 105.6 | 145.8 |
| 10000 | 100.2 | 103.9 | 105.9 | 106.8 | 105.2 | 104.0 | 100.0 | 99.4  | 100.3 | 102.1 | 103.1 | 104.6 | 104.6 | 147.4 |
| 12500 | 99.1  | 100.4 | 103.5 | 105.5 | 105.3 | 105.6 | 102.6 | 100.5 | 100.3 | 99.9  | 100.7 | 101.8 | 102.6 | 147.4 |
| 16000 | 96.2  | 99.3  | 99.7  | 102.1 | 103.8 | 104.2 | 102.8 | 101.4 | 100.6 | 97.9  | 99.4  | 99.8  | 99.6  | 147.3 |
| 20000 | 94.6  | 96.1  | 98.3  | 99.6  | 100.4 | 101.2 | 101.8 | 100.6 | 99.7  | 96.4  | 97.1  | 97.7  | 97.3  | 147.0 |
| 25000 | 91.9  | 94.2  | 96.2  | 98.2  | 98.8  | 99.9  | 99.6  | 98.8  | 99.0  | 96.0  | 95.3  | 95.4  | 93.0  | 147.7 |
| 31500 | 86.0  | 89.8  | 91.1  | 93.6  | 93.9  | 95.0  | 94.0  | 93.3  | 94.1  | 92.0  | 91.1  | 90.9  | 87.2  | 145.9 |
| 40000 | 83.4  | 86.7  | 89.5  | 90.7  | 92.0  | 92.9  | 91.7  | 91.6  | 91.3  | 89.6  | 88.5  | 87.2  | 84.1  | 147.6 |
| 50000 | 80.4  | 84.3  | 87.6  | 88.2  | 90.0  | 90.2  | 89.2  | 88.2  | 89.5  | 87.3  | 85.9  | 85.9  | 81.4  | 149.5 |
| 63000 | 77.5  | 83.0  | 85.5  | 85.1  | 87.5  | 88.2  | 86.1  | 86.1  | 87.2  | 85.3  | 84.8  | 83.7  | 78.2  | 152.6 |
| 80000 | 72.9  | 80.9  | 83.7  | 81.9  | 84.2  | 85.6  | 82.7  | 82.5  | 83.7  | 82.8  | 82.8  | 80.3  | 72.9  | 156.4 |

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CASPL 108.6 111.2 112.1 112.5 112.1 112.1 111.4 111.3 112.5 114.5 116.0 118.1 119.3 161.2  
PNL 120.1 122.3 122.3 121.4 120.6 120.3 121.1 122.4 124.4 127.0 127.9 129.0 129.3  
PNLT 120.1 122.3 122.3 121.4 120.6 120.3 122.4 122.4 124.4 127.0 127.9 129.0 129.3  
DBA 106.7 109.3 109.7 109.1 107.9 107.5 107.5 108.9 111.0 113.7 114.6 115.5 115.9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VERTCL = ADH213 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NG PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1634.3 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1697.4 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1415 TAPE = X1415C TEST PT NO = 1415 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1415 X1415F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.5  | 77.6  | 76.3  | 76.6  | 81.0  | 77.8  | 77.5  | 80.6  | 80.8  | 78.9  | 84.5  | 86.5  | 88.1  | 123.3 |
| 63    | 90.4  | 86.7  | 83.2  | 84.3  | 89.9  | 86.0  | 87.6  | 86.3  | 87.2  | 82.3  | 84.4  | 86.6  | 92.5  | 129.3 |
| 80    | 83.4  | 87.5  | 84.2  | 85.8  | 85.4  | 87.0  | 87.4  | 87.3  | 87.5  | 88.1  | 87.9  | 90.9  | 94.3  | 129.7 |
| 100   | 85.0  | 89.3  | 84.8  | 86.6  | 88.2  | 87.8  | 88.2  | 90.6  | 89.0  | 90.6  | 93.0  | 96.7  | 99.6  | 133.0 |
| 125   | 82.7  | 85.4  | 87.5  | 88.0  | 89.1  | 89.2  | 89.1  | 89.7  | 89.5  | 91.8  | 96.4  | 100.6 | 103.0 | 135.4 |
| 160   | 82.7  | 80.0  | 85.0  | 84.0  | 86.1  | 86.5  | 90.1  | 87.0  | 87.7  | 90.8  | 96.7  | 100.9 | 104.8 | 135.7 |
| 200   | 83.6  | 84.9  | 84.6  | 85.4  | 86.3  | 87.1  | 90.3  | 90.9  | 92.1  | 92.7  | 98.1  | 102.8 | 106.9 | 137.7 |
| 250   | 81.5  | 87.6  | 85.1  | 85.6  | 87.0  | 88.6  | 91.0  | 92.1  | 93.3  | 97.1  | 102.8 | 107.0 | 109.4 | 140.8 |
| 315   | 84.4  | 86.2  | 84.9  | 88.5  | 89.1  | 89.7  | 92.6  | 93.2  | 94.9  | 98.7  | 103.1 | 107.8 | 110.2 | 141.7 |
| 400   | 82.7  | 85.8  | 86.5  | 86.6  | 88.4  | 89.3  | 100.2 | 93.6  | 95.5  | 100.3 | 104.7 | 108.9 | 110.3 | 142.8 |
| 500   | 83.7  | 86.0  | 86.8  | 87.3  | 88.2  | 90.0  | 92.4  | 93.3  | 96.6  | 100.6 | 104.5 | 108.9 | 109.8 | 142.4 |
| 630   | 83.9  | 87.0  | 88.2  | 88.8  | 89.6  | 91.0  | 91.6  | 94.3  | 96.0  | 101.5 | 103.9 | 107.1 | 108.3 | 141.4 |
| 800   | 85.2  | 87.0  | 89.0  | 89.5  | 90.1  | 91.5  | 93.1  | 95.5  | 97.3  | 101.8 | 103.7 | 104.9 | 105.3 | 140.3 |
| 1000  | 88.2  | 88.5  | 90.5  | 90.3  | 90.9  | 92.2  | 93.1  | 95.0  | 97.7  | 101.6 | 102.9 | 103.1 | 102.8 | 139.5 |
| 1250  | 88.0  | 90.8  | 90.3  | 91.5  | 92.2  | 93.6  | 94.5  | 95.4  | 97.6  | 101.7 | 102.0 | 100.7 | 100.5 | 139.0 |
| 1600  | 88.8  | 91.4  | 91.4  | 92.7  | 93.0  | 93.1  | 94.4  | 96.0  | 98.4  | 101.4 | 102.1 | 100.0 | 99.2  | 139.0 |
| 2000  | 90.5  | 91.4  | 92.6  | 92.5  | 92.6  | 93.2  | 94.9  | 96.2  | 97.8  | 101.1 | 100.6 | 99.2  | 97.5  | 138.5 |
| 2500  | 91.0  | 92.8  | 92.8  | 93.1  | 94.2  | 94.1  | 95.0  | 97.6  | 99.7  | 102.3 | 100.8 | 99.6  | 97.6  | 139.5 |
| 3150  | 92.1  | 93.7  | 94.2  | 94.2  | 93.6  | 95.4  | 96.5  | 97.2  | 99.6  | 102.1 | 102.1 | 100.3 | 98.8  | 140.0 |
| 4000  | 92.8  | 94.0  | 96.6  | 95.5  | 94.7  | 95.2  | 96.3  | 98.4  | 100.5 | 102.9 | 102.2 | 101.7 | 101.0 | 141.0 |
| 5000  | 97.3  | 98.5  | 98.6  | 97.1  | 95.6  | 96.1  | 96.7  | 98.5  | 101.5 | 102.8 | 103.9 | 104.2 | 104.0 | 142.5 |
| 6300  | 100.9 | 103.2 | 101.6 | 99.9  | 98.5  | 97.5  | 97.5  | 99.7  | 101.4 | 103.0 | 104.6 | 105.9 | 105.6 | 144.4 |
| 8000  | 101.8 | 105.4 | 105.7 | 103.9 | 101.6 | 99.1  | 97.3  | 99.2  | 100.9 | 102.4 | 103.7 | 104.5 | 105.6 | 145.8 |
| 10000 | 100.2 | 103.9 | 105.9 | 106.8 | 105.2 | 104.0 | 100.0 | 99.4  | 100.3 | 102.1 | 103.1 | 104.6 | 104.6 | 147.4 |
| 12500 | 99.1  | 100.4 | 103.5 | 105.5 | 105.3 | 105.6 | 102.6 | 100.5 | 100.3 | 99.9  | 100.7 | 101.8 | 102.6 | 147.4 |
| 16000 | 96.2  | 99.3  | 99.7  | 102.1 | 103.8 | 104.2 | 102.8 | 101.4 | 100.6 | 97.9  | 99.4  | 99.8  | 99.6  | 147.3 |
| 20000 | 94.6  | 96.1  | 98.3  | 99.6  | 100.4 | 101.2 | 101.8 | 100.6 | 99.7  | 96.4  | 97.1  | 97.7  | 97.3  | 147.0 |
| 25000 | 91.9  | 94.2  | 96.2  | 98.2  | 98.8  | 99.9  | 99.6  | 98.8  | 99.0  | 96.0  | 95.3  | 95.4  | 93.0  | 147.7 |
| 31500 | 86.0  | 89.8  | 91.1  | 93.6  | 93.9  | 95.0  | 94.0  | 93.3  | 94.1  | 92.0  | 91.1  | 90.9  | 87.2  | 145.9 |
| 40000 | 83.4  | 86.7  | 89.5  | 90.7  | 92.0  | 92.9  | 91.7  | 91.6  | 91.3  | 89.6  | 88.5  | 87.2  | 84.1  | 147.6 |
| 50000 | 80.4  | 84.3  | 87.6  | 88.2  | 90.0  | 90.2  | 89.2  | 88.2  | 89.5  | 87.3  | 85.9  | 85.9  | 81.4  | 149.5 |
| 63000 | 77.5  | 83.0  | 85.5  | 85.1  | 87.5  | 88.2  | 86.1  | 86.1  | 87.2  | 85.3  | 84.8  | 83.7  | 78.2  | 152.6 |
| 80000 | 72.9  | 80.9  | 83.7  | 81.9  | 84.2  | 85.6  | 82.7  | 82.5  | 83.7  | 82.8  | 82.8  | 80.3  | 72.9  | 156.4 |
| GASPL | 108.6 | 111.2 | 112.1 | 112.5 | 112.1 | 112.1 | 111.4 | 111.3 | 112.5 | 114.5 | 116.0 | 118.1 | 119.3 | 161.2 |
| PNL   | 120.1 | 122.3 | 122.3 | 121.4 | 120.6 | 120.3 | 121.1 | 122.4 | 124.4 | 127.0 | 127.9 | 129.0 | 129.3 |       |
| PNLT  | 120.1 | 122.3 | 122.3 | 121.4 | 120.6 | 120.3 | 122.4 | 122.4 | 124.4 | 127.0 | 127.9 | 129.0 | 129.3 |       |
| DBA   | 194.3 | 201.7 | 204.5 | 202.9 | 205.2 | 206.5 | 203.8 | 203.6 | 204.7 | 203.6 | 203.5 | 201.3 | 194.4 |       |

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OF FOUR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NAS: DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH213 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1634.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1697.4 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1415 TAPE = X1415F TEST PT NO = 1415 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1415 X14151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                                                                                                                                                                                                                                                                                                                         | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130. | 140. | 150. | 160. | PWL   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|
| 50                                                                                                                                                                                                                                                                                                                                           | 60.9 | 65.5 | 67.3 | 68.0  | 70.3  | 71.3  | 82.0  | 75.0  | 76.3  | 80.0 | 82.9 | 84.9 | 82.9 | 160.4 |
| 63                                                                                                                                                                                                                                                                                                                                           | 61.9 | 65.7 | 67.5 | 68.8  | 70.0  | 72.0  | 74.3  | 74.8  | 77.3  | 80.3 | 82.6 | 84.9 | 82.4 | 160.0 |
| 80                                                                                                                                                                                                                                                                                                                                           | 62.0 | 66.6 | 68.9 | 70.2  | 71.4  | 72.9  | 73.4  | 75.7  | 76.7  | 81.2 | 82.0 | 83.0 | 80.7 | 159.0 |
| 100                                                                                                                                                                                                                                                                                                                                          | 63.2 | 66.5 | 69.7 | 70.9  | 71.9  | 73.4  | 74.9  | 76.9  | 77.9  | 81.4 | 81.7 | 80.6 | 77.6 | 157.9 |
| 125                                                                                                                                                                                                                                                                                                                                          | 66.1 | 67.9 | 71.1 | 71.6  | 72.6  | 74.1  | 74.8  | 76.3  | 78.3  | 81.0 | 80.8 | 78.7 | 74.9 | 157.1 |
| 160                                                                                                                                                                                                                                                                                                                                          | 65.7 | 70.1 | 70.8 | 72.6  | 73.8  | 75.3  | 76.0  | 76.5  | 78.0  | 81.0 | 79.7 | 76.1 | 72.2 | 156.6 |
| 200                                                                                                                                                                                                                                                                                                                                          | 66.2 | 70.5 | 71.6 | 73.7  | 74.4  | 74.7  | 75.9  | 77.0  | 78.6  | 80.5 | 79.5 | 75.0 | 70.5 | 156.6 |
| 250                                                                                                                                                                                                                                                                                                                                          | 67.6 | 70.3 | 72.6 | 73.3  | 73.8  | 74.6  | 76.2  | 77.0  | 77.9  | 80.0 | 77.8 | 73.8 | 68.1 | 156.1 |
| 315                                                                                                                                                                                                                                                                                                                                          | 67.7 | 71.3 | 72.6 | 73.6  | 75.2  | 75.2  | 76.0  | 78.1  | 79.5  | 80.8 | 77.5 | 73.7 | 67.4 | 157.1 |
| 400                                                                                                                                                                                                                                                                                                                                          | 68.3 | 71.8 | 73.6 | 74.4  | 74.2  | 76.2  | 77.2  | 77.4  | 78.9  | 80.2 | 78.3 | 73.7 | 67.6 | 157.6 |
| 500                                                                                                                                                                                                                                                                                                                                          | 68.5 | 71.7 | 75.6 | 75.4  | 75.1  | 75.7  | 76.7  | 78.3  | 79.5  | 80.6 | 77.9 | 74.5 | 68.8 | 158.6 |
| 630                                                                                                                                                                                                                                                                                                                                          | 72.5 | 75.8 | 77.3 | 76.7  | 75.7  | 76.3  | 76.8  | 78.1  | 80.2  | 80.1 | 79.2 | 76.3 | 70.7 | 160.1 |
| 800                                                                                                                                                                                                                                                                                                                                          | 75.7 | 80.2 | 80.0 | 79.3  | 78.4  | 77.5  | 77.4  | 79.0  | 79.8  | 80.0 | 79.3 | 77.3 | 71.2 | 162.0 |
| 1000                                                                                                                                                                                                                                                                                                                                         | 76.1 | 82.0 | 83.8 | 83.1  | 81.3  | 79.1  | 77.1  | 78.3  | 79.0  | 79.0 | 78.0 | 75.2 | 70.1 | 163.4 |
| 1250                                                                                                                                                                                                                                                                                                                                         | 74.0 | 80.2 | 83.9 | 85.8  | 84.8  | 83.8  | 79.6  | 78.4  | 78.2  | 78.4 | 76.9 | 74.5 | 67.6 | 165.0 |
| 1600                                                                                                                                                                                                                                                                                                                                         | 72.0 | 76.1 | 81.0 | 84.1  | 84.6  | 85.1  | 81.9  | 79.2  | 77.8  | 75.6 | 73.6 | 70.4 | 63.2 | 165.0 |
| 2000                                                                                                                                                                                                                                                                                                                                         | 68.2 | 74.4 | 76.9 | 80.6  | 82.9  | 83.6  | 81.9  | 79.8  | 77.8  | 73.0 | 71.4 | 66.7 | 57.2 | 164.9 |
| 2500                                                                                                                                                                                                                                                                                                                                         | 64.7 | 70.0 | 74.5 | 77.4  | 79.0  | 80.1  | 80.4  | 78.4  | 75.9  | 70.3 | 67.3 | 61.8 | 50.1 | 164.6 |
| 3150                                                                                                                                                                                                                                                                                                                                         | 58.7 | 65.6 | 70.6 | 74.4  | 76.1  | 77.5  | 76.8  | 75.0  | 73.4  | 67.5 | 62.1 | 54.5 | 37.3 | 165.3 |
| 4000                                                                                                                                                                                                                                                                                                                                         | 46.6 | 56.5 | 61.6 | 66.5  | 68.2  | 69.7  | 68.3  | 66.2  | 64.6  | 58.7 | 51.6 | 41.1 | 17.0 | 163.5 |
| 5000                                                                                                                                                                                                                                                                                                                                         | 34.2 | 45.9 | 53.8 | 58.2  | 61.3  | 62.7  | 61.0  | 59.1  | 55.6  | 48.8 | 39.3 | 23.7 |      | 165.2 |
| 6300                                                                                                                                                                                                                                                                                                                                         | 13.4 | 29.2 | 39.9 | 44.9  | 49.1  | 50.1  | 48.3  | 44.9  | 41.8  | 32.2 | 18.9 |      |      | 167.1 |
| 8000                                                                                                                                                                                                                                                                                                                                         |      | 3.1  | 16.4 | 22.6  | 28.6  | 30.4  | 27.2  | 23.6  | 18.1  | 5.4  |      |      |      | 170.2 |
| 10000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       | 1.4   |       |       |       |      |      |      |      | 174.0 |
| 12500                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 16000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 20000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 25000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 31500                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 40000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 50000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 63000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 80000                                                                                                                                                                                                                                                                                                                                        |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| CASPL                                                                                                                                                                                                                                                                                                                                        | 82.8 | 87.7 | 90.1 | 91.4  | 91.4  | 91.6  | 91.0  | 90.4  | 91.0  | 92.3 | 91.9 | 91.3 | 88.3 | 178.7 |
| PNL                                                                                                                                                                                                                                                                                                                                          | 90.3 | 95.1 | 98.7 | 101.1 | 101.8 | 102.5 | 101.7 | 100.5 | 99.7  | 98.0 | 96.3 | 93.4 | 87.4 |       |
| PNLT                                                                                                                                                                                                                                                                                                                                         | 90.3 | 95.6 | 99.2 | 101.6 | 101.8 | 103.0 | 101.7 | 100.5 | 100.2 | 98.6 | 96.3 | 93.4 | 87.4 |       |
| DBA                                                                                                                                                                                                                                                                                                                                          | 81.9 | 87.1 | 89.8 | 91.4  | 91.4  | 91.5  | 89.6  | 88.5  | 88.1  | 87.4 | 85.9 | 83.0 | 77.1 |       |
| MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)    SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)    DIAMETER RATIO = 7.583    FREQ SHIFT = -9<br>NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166                                                                                                                                              |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| VEHICL = ADH213    TEST DATE = 08-16-82    LOCAT = C41 ANECH CH    CONFIG = 4    MODEL = AX    FLTVEL = 0. FPS<br>IAPLHA = SB59    IEGA = NO    PWL AREA = FULL SPHERE    TAMB F = 80.00    PAMB HG = 29.45    RELHUM = 75.7 PCT<br>WIND DIR =    DEG    WIND VEL =    MPH    EXT DIST = 2400.0 FT    EXT CONFIG = SL    MIKE HT =    NBFR = |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| FNINI =    LBS    XNL =    RPM    XNH =    RPM    V8 = 1634.3 FPS    AE8 = 4.0 SQ IN<br>FNRAMB =    LBS    XNLR =    RPM    XNHR =    RPM    V18 = 1697.4 FPS    AE18 = 20.4 SQ IN                                                                                                                                                           |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| RUN# = 82F-ZER-1415    TAPE = X14151    TEST PT NO = 1415    NC = AE058    CORR FAN SPEED =    RPM                                                                                                                                                                                                                                           |      |      |      |       |       |       |       |       |       |      |      |      |      |       |

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OF POOR QUALITY

PII-E-811

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1416 X1416C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120. | 130. | 140. | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|-------|-------|
| 50    | 85.5  | 83.8  | 79.1  | 79.4  | 80.5  | 78.1  | 79.0  | 82.4  | 80.6 | 82.4 | 88.5 | 87.7  | 97.1  | 127.7 |
| 63    | 90.9  | 88.7  | 83.2  | 81.5  | 86.1  | 83.7  | 86.4  | 89.0  | 86.5 | 84.0 | 85.7 | 85.4  | 96.3  | 129.7 |
| 80    | 83.4  | 87.7  | 84.2  | 85.5  | 84.9  | 86.2  | 87.4  | 87.5  | 87.7 | 87.8 | 87.7 | 90.6  | 98.0  | 130.4 |
| 100   | 82.7  | 87.8  | 83.3  | 84.1  | 85.9  | 85.5  | 87.2  | 88.3  | 86.5 | 87.1 | 90.2 | 93.9  | 99.6  | 131.3 |
| 125   | 80.7  | 83.4  | 85.0  | 85.7  | 86.1  | 86.5  | 87.6  | 87.5  | 86.7 | 88.0 | 92.9 | 97.8  | 101.5 | 133.0 |
| 160   | 80.9  | 78.2  | 81.5  | 80.3  | 82.4  | 82.2  | 89.9  | 84.0  | 84.5 | 87.5 | 83.7 | 97.4  | 102.0 | 132.8 |
| 200   | 82.8  | 81.6  | 79.9  | 79.7  | 82.3  | 82.6  | 87.3  | 86.7  | 87.9 | 88.5 | 92.6 | 98.5  | 102.9 | 133.5 |
| 250   | 77.5  | 79.6  | 79.1  | 80.4  | 81.0  | 82.8  | 85.5  | 86.6  | 87.6 | 91.4 | 97.5 | 102.0 | 103.6 | 135.4 |
| 315   | 81.6  | 79.7  | 79.4  | 83.2  | 83.1  | 83.4  | 88.6  | 88.0  | 88.4 | 93.0 | 97.6 | 102.1 | 103.2 | 135.6 |
| 400   | 76.7  | 79.8  | 79.5  | 80.3  | 81.7  | 82.5  | 92.9  | 86.8  | 88.5 | 93.9 | 98.2 | 102.2 | 101.3 | 135.5 |
| 500   | 77.3  | 79.0  | 80.1  | 81.1  | 81.2  | 82.6  | 85.9  | 86.6  | 89.1 | 94.6 | 98.3 | 100.9 | 98.8  | 134.4 |
| 630   | 77.4  | 79.5  | 80.7  | 81.3  | 82.4  | 83.2  | 85.1  | 87.3  | 88.7 | 95.3 | 97.7 | 98.9  | 95.5  | 133.3 |
| 800   | 78.4  | 80.5  | 81.8  | 82.3  | 82.9  | 84.2  | 86.1  | 88.3  | 90.3 | 95.1 | 98.0 | 95.6  | 91.8  | 132.6 |
| 1000  | 81.7  | 82.2  | 83.5  | 83.0  | 84.4  | 85.0  | 86.9  | 88.8  | 90.8 | 95.1 | 97.0 | 93.9  | 89.5  | 132.2 |
| 1250  | 82.5  | 85.8  | 85.1  | 85.0  | 85.0  | 86.1  | 88.2  | 89.1  | 91.8 | 95.7 | 96.0 | 91.0  | 87.5  | 132.3 |
| 1600  | 83.5  | 85.2  | 86.1  | 86.0  | 86.5  | 87.3  | 88.9  | 90.7  | 92.6 | 95.4 | 95.8 | 89.0  | 86.7  | 132.5 |
| 2000  | 84.8  | 84.2  | 86.3  | 86.5  | 86.6  | 87.2  | 89.4  | 90.2  | 92.6 | 95.6 | 94.6 | 88.2  | 85.2  | 132.3 |
| 2500  | 87.0  | 87.5  | 87.8  | 87.8  | 87.7  | 88.8  | 90.0  | 92.1  | 93.7 | 97.0 | 94.3 | 86.9  | 84.6  | 133.4 |
| 3150  | 90.4  | 89.7  | 89.5  | 88.5  | 88.8  | 89.9  | 91.5  | 92.5  | 93.3 | 96.9 | 94.9 | 87.6  | 85.1  | 134.1 |
| 4000  | 93.6  | 92.0  | 91.4  | 90.0  | 89.7  | 90.2  | 91.3  | 93.9  | 95.0 | 97.0 | 94.2 | 89.3  | 86.8  | 135.1 |
| 5000  | 96.8  | 97.1  | 95.4  | 93.6  | 91.4  | 91.6  | 92.7  | 94.3  | 96.3 | 97.6 | 96.2 | 91.0  | 89.3  | 137.3 |
| 6300  | 100.8 | 101.1 | 100.6 | 98.2  | 96.3  | 94.3  | 94.6  | 95.2  | 96.5 | 97.9 | 97.2 | 93.2  | 90.2  | 140.4 |
| 8000  | 101.1 | 103.2 | 104.0 | 102.5 | 99.4  | 97.7  | 95.4  | 95.5  | 96.5 | 97.3 | 96.3 | 92.3  | 89.7  | 142.9 |
| 10000 | 98.4  | 102.1 | 104.1 | 105.0 | 104.1 | 102.6 | 100.1 | 97.1  | 96.7 | 98.1 | 95.8 | 92.3  | 89.0  | 145.0 |
| 12500 | 97.8  | 98.9  | 101.0 | 102.5 | 103.1 | 104.3 | 102.6 | 99.8  | 98.1 | 96.5 | 94.8 | 91.6  | 88.8  | 145.3 |
| 16000 | 94.9  | 98.6  | 99.2  | 100.1 | 100.7 | 101.7 | 102.2 | 101.8 | 99.6 | 96.5 | 94.1 | 90.2  | 87.0  | 145.5 |
| 20000 | 93.4  | 95.9  | 97.2  | 99.3  | 99.1  | 100.1 | 101.2 | 100.3 | 99.6 | 96.0 | 93.6 | 89.0  | 84.9  | 146.0 |
| 25000 | 90.5  | 93.5  | 95.3  | 96.6  | 98.0  | 98.9  | 100.0 | 99.0  | 99.8 | 96.5 | 92.8 | 88.8  | 82.6  | 147.2 |
| 31500 | 84.5  | 89.0  | 90.6  | 92.2  | 93.0  | 94.3  | 94.3  | 94.2  | 95.1 | 92.4 | 89.5 | 85.2  | 77.9  | 145.5 |
| 40000 | 81.2  | 86.4  | 88.7  | 88.7  | 90.5  | 91.6  | 91.9  | 91.8  | 92.0 | 88.6 | 85.9 | 81.9  | 75.0  | 146.8 |
| 50000 | 77.7  | 83.2  | 85.1  | 86.0  | 87.9  | 89.1  | 88.3  | 87.9  | 88.7 | 85.0 | 81.5 | 77.5  | 70.9  | 147.9 |
| 63000 | 74.0  | 79.9  | 82.6  | 82.1  | 84.6  | 86.0  | 84.7  | 85.6  | 85.6 | 82.7 | 78.8 | 73.2  | 65.6  | 150.2 |
| 80000 | 67.5  | 76.7  | 78.8  | 77.3  | 80.1  | 82.5  | 79.9  | 80.2  | 81.2 | 78.5 | 73.3 | 66.7  | 56.9  | 152.6 |

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CASPL 107.6 109.3 110.2 110.3 109.9 110.0 109.8 109.0 109.0 109.6 109.9 110.6 111.9 158.5  
PNL 118.8 119.4 119.4 118.4 117.5 116.9 117.0 117.8 119.1 121.5 121.2 118.9 118.6  
PNLT 119.6 119.4 119.4 119.0 117.5 116.9 118.0 117.8 119.1 121.5 121.2 118.9 118.6  
DBA 105.7 106.9 107.4 106.6 105.1 104.1 103.7 104.1 105.5 108.1 107.9 106.0 104.7

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VERTCL = ADH233 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 52.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1634.5 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1725.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1416 TAPE = X1416C TEST PT NO = 1416 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1416 X1416F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 53    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 84.1  | 85.0  | 83.4  | 83.3  | 82.4  | 82.8  | 83.6  | 83.0  | 85.0  | 88.6  | 92.7  | 97.6  | 100.6 | 132.1 |
| 315   | 84.1  | 85.0  | 83.4  | 83.3  | 84.5  | 83.6  | 87.2  | 85.2  | 85.3  | 89.8  | 93.8  | 98.5  | 100.2 | 132.7 |
| 400   | 87.2  | 84.5  | 83.2  | 85.9  | 83.4  | 82.8  | 91.6  | 84.1  | 86.1  | 90.9  | 94.3  | 98.2  | 99.4  | 132.9 |
| 500   | 83.7  | 85.7  | 84.2  | 83.6  | 83.0  | 82.9  | 84.7  | 83.9  | 86.1  | 92.0  | 94.3  | 97.2  | 98.3  | 132.0 |
| 630   | 84.3  | 85.0  | 84.8  | 84.4  | 84.3  | 83.6  | 84.0  | 84.7  | 88.1  | 92.4  | 95.4  | 95.5  | 97.4  | 131.9 |
| 800   | 85.0  | 85.8  | 85.7  | 84.8  | 84.9  | 84.8  | 85.1  | 85.8  | 89.1  | 93.0  | 95.2  | 95.2  | 97.8  | 132.2 |
| 1000  | 85.9  | 86.8  | 86.7  | 85.8  | 86.3  | 85.6  | 86.0  | 86.5  | 91.7  | 95.0  | 95.7  | 93.7  | 97.1  | 132.8 |
| 1250  | 87.7  | 87.5  | 87.8  | 86.2  | 86.8  | 86.9  | 88.4  | 88.3  | 93.0  | 95.5  | 96.3  | 92.6  | 97.4  | 133.4 |
| 1600  | 87.8  | 90.4  | 88.9  | 87.6  | 88.8  | 88.4  | 89.4  | 90.2  | 93.3  | 96.2  | 95.9  | 92.8  | 97.1  | 134.1 |
| 2000  | 89.8  | 90.8  | 90.7  | 89.5  | 89.0  | 88.5  | 90.0  | 89.9  | 94.3  | 97.4  | 95.4  | 91.5  | 96.7  | 134.6 |
| 2500  | 90.9  | 89.7  | 91.0  | 90.0  | 90.2  | 90.4  | 90.8  | 91.7  | 94.6  | 98.2  | 96.9  | 93.1  | 98.0  | 135.5 |
| 3150  | 92.4  | 92.4  | 92.0  | 91.2  | 91.5  | 91.9  | 92.9  | 92.8  | 97.7  | 99.4  | 97.1  | 95.3  | 99.9  | 137.2 |
| 4000  | 96.0  | 94.6  | 93.5  | 91.8  | 92.9  | 92.7  | 93.4  | 95.3  | 99.0  | 99.7  | 98.3  | 95.9  | 101.0 | 138.5 |
| 5000  | 100.0 | 97.6  | 96.0  | 93.8  | 94.9  | 94.6  | 95.2  | 96.1  | 98.0  | 98.8  | 98.3  | 97.2  | 101.1 | 139.6 |
| 6300  | 103.5 | 103.0 | 100.4 | 97.6  | 99.8  | 97.3  | 96.3  | 95.8  | 97.4  | 97.8  | 97.1  | 96.1  | 100.5 | 142.0 |
| 8000  | 107.2 | 106.7 | 105.4 | 102.1 | 102.9 | 100.7 | 96.9  | 95.5  | 97.8  | 98.7  | 96.8  | 96.2  | 100.0 | 145.4 |
| 10000 | 106.5 | 108.0 | 108.1 | 106.0 | 108.2 | 105.6 | 101.6 | 97.1  | 99.5  | 97.4  | 96.0  | 95.8  | 100.0 | 148.5 |
| 12500 | 105.3 | 108.2 | 109.4 | 109.2 | 107.1 | 107.3 | 104.0 | 99.8  | 101.6 | 97.9  | 95.9  | 95.0  | 98.7  | 150.3 |
| 16000 | 104.1 | 104.5 | 105.7 | 106.2 | 104.7 | 104.7 | 103.6 | 101.8 | 103.6 | 100.2 | 98.9  | 97.8  | 100.8 | 149.6 |
| 20000 | 100.8 | 103.7 | 103.5 | 103.4 | 103.1 | 103.1 | 103.0 | 101.2 | 104.3 | 100.8 | 97.9  | 97.5  | 98.9  | 150.1 |
| 25000 | 98.8  | 100.4 | 100.9 | 102.0 | 102.1 | 101.9 | 102.1 | 100.2 | 100.1 | 97.2  | 94.9  | 94.0  | 94.5  | 150.4 |
| 31500 | 95.0  | 97.3  | 98.2  | 98.6  | 97.0  | 97.3  | 96.3  | 95.2  | 98.2  | 94.7  | 92.8  | 92.4  | 93.3  | 149.7 |
| 40000 | 88.2  | 92.0  | 92.6  | 93.3  | 94.5  | 94.6  | 94.0  | 93.0  | 95.3  | 91.5  | 88.8  | 88.4  | 89.5  | 150.1 |
| 50000 | 84.6  | 89.0  | 90.3  | 89.4  | 92.5  | 92.1  | 90.4  | 89.1  | 92.6  | 89.4  | 85.9  | 83.4  | 82.8  | 151.6 |
| 63000 | 82.9  | 87.1  | 87.5  | 86.9  | 89.2  | 89.0  | 86.7  | 86.4  | 89.9  | 86.9  | 82.2  | 78.7  | 75.9  | 154.0 |
| 80000 | 77.7  | 82.3  | 83.6  | 81.5  | 84.7  | 85.5  | 81.8  | 81.1  | 80.0  | 77.1  | 72.3  | 68.9  | 66.1  | 155.4 |
| OASPL | 113.5 | 114.5 | 114.7 | 113.9 | 113.7 | 112.9 | 111.2 | 109.2 | 111.5 | 110.6 | 109.7 | 109.3 | 112.4 | 161.8 |
| PNL   | 122.0 | 121.7 | 120.6 | 118.6 | 120.1 | 118.4 | 117.0 | 117.2 | 120.4 | 121.9 | 121.2 | 119.9 | 124.0 |       |
| PNLT  | 122.6 | 121.7 | 120.6 | 118.6 | 120.1 | 118.4 | 118.0 | 117.2 | 120.4 | 121.9 | 121.2 | 119.9 | 124.0 |       |
| DBA   | 199.1 | 203.6 | 204.8 | 203.0 | 206.0 | 206.5 | 203.3 | 202.6 | 203.4 | 200.4 | 185.9 | 192.6 | 190.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                        |                          |                 |                   |
|-----------------|----------------------|------------------------|--------------------------|-----------------|-------------------|
| VEHICL = ADH233 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH   | CONFIG = 4               | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 83.00           | PAMB HG = 29.50 | RELHUM = 52.6 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT EXT CONFIG = ARC | MIKE HT =       | NBFR =            |

|          |            |            |                      |                   |
|----------|------------|------------|----------------------|-------------------|
| FNIN1 =  | LBS XNL =  | RPM XNH =  | RPM V8 = 1634.5 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB = | LBS XNLR = | RPM XNHR = | RPM V18 = 1725.0 FPS | AE18 = 20.4 SQ IN |

RUNPT = 82F-400-1416 TAPE = X1416F TEST PT NO = 1416 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1416 X14161

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120.  | 130. | 140. | 150. | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|------|-------|------|------|------|------|-------|
| 50    | 65.4 | 64.2  | 64.0  | 67.4  | 65.3  | 64.8  | 73.5  | 65.6 | 66.9  | 70.6 | 72.4 | 74.1 | 72.0 | 150.5 |
| 63    | 61.9 | 65.4  | 65.0  | 65.0  | 64.9  | 64.9  | 66.6  | 65.4 | 66.9  | 71.7 | 72.4 | 73.2 | 70.8 | 149.6 |
| 80    | 62.4 | 64.6  | 65.5  | 65.8  | 66.2  | 65.6  | 65.8  | 66.1 | 66.8  | 72.0 | 73.5 | 71.4 | 69.9 | 149.5 |
| 100   | 63.0 | 65.4  | 66.4  | 66.1  | 66.7  | 66.7  | 66.9  | 67.2 | 69.7  | 72.5 | 73.2 | 70.9 | 70.1 | 149.8 |
| 125   | 63.8 | 66.3  | 67.3  | 67.1  | 68.0  | 67.5  | 67.7  | 67.8 | 72.3  | 74.5 | 73.6 | 69.3 | 69.2 | 150.4 |
| 160   | 65.4 | 66.8  | 68.2  | 67.3  | 68.4  | 68.6  | 70.0  | 69.4 | 73.4  | 74.8 | 74.0 | 67.9 | 69.1 | 151.0 |
| 200   | 65.2 | 69.5  | 69.1  | 68.8  | 70.2  | 70.0  | 70.8  | 71.2 | 73.5  | 73.3 | 73.4 | 67.9 | 68.3 | 151.7 |
| 250   | 67.0 | 69.6  | 70.7  | 70.3  | 70.3  | 69.8  | 71.2  | 70.6 | 74.3  | 76.2 | 72.6 | 66.1 | 67.3 | 152.2 |
| 315   | 67.6 | 68.2  | 70.7  | 70.6  | 71.2  | 71.6  | 71.8  | 72.2 | 74.3  | 76.6 | 73.6 | 67.1 | 67.7 | 153.1 |
| 400   | 68.6 | 70.5  | 71.4  | 71.4  | 72.2  | 72.7  | 73.5  | 73.0 | 77.0  | 77.5 | 73.3 | 68.7 | 68.7 | 154.8 |
| 500   | 71.7 | 72.3  | 72.6  | 71.7  | 73.3  | 73.3  | 73.8  | 75.2 | 78.0  | 77.4 | 74.0 | 68.6 | 68.8 | 156.1 |
| 630   | 75.2 | 74.9  | 74.7  | 73.4  | 75.0  | 74.9  | 75.3  | 75.7 | 76.7  | 76.1 | 73.5 | 69.3 | 67.8 | 157.2 |
| 800   | 78.2 | 79.9  | 78.8  | 77.0  | 79.7  | 77.3  | 76.2  | 75.2 | 75.8  | 74.7 | 71.8 | 67.5 | 66.1 | 159.6 |
| 1000  | 81.5 | 83.3  | 83.6  | 81.3  | 82.7  | 80.7  | 76.6  | 74.7 | 76.0  | 75.3 | 71.1 | 66.9 | 64.4 | 163.0 |
| 1250  | 80.3 | 84.3  | 86.1  | 85.0  | 87.8  | 85.4  | 81.2  | 76.1 | 77.4  | 73.7 | 69.8 | 65.7 | 63.0 | 166.1 |
| 1600  | 78.2 | 83.9  | 86.9  | 87.9  | 86.4  | 86.8  | 83.3  | 78.4 | 79.1  | 73.6 | 68.8 | 63.5 | 59.4 | 167.9 |
| 2000  | 76.1 | 79.6  | 82.8  | 84.6  | 83.9  | 84.0  | 82.8  | 80.2 | 80.7  | 75.3 | 70.8 | 64.7 | 58.5 | 167.2 |
| 2500  | 71.0 | 77.6  | 79.8  | 81.2  | 81.7  | 82.0  | 81.6  | 79.0 | 80.5  | 74.7 | 68.1 | 61.6 | 51.7 | 167.7 |
| 3150  | 65.6 | 71.9  | 75.3  | 78.2  | 73.3  | 79.4  | 79.3  | 76.4 | 74.5  | 68.6 | 61.7 | 53.1 | 38.8 | 168.0 |
| 4000  | 55.6 | 64.0  | 68.7  | 71.5  | 71.2  | 72.0  | 70.6  | 68.1 | 68.7  | 61.4 | 53.4 | 42.6 | 23.1 | 167.3 |
| 5000  | 39.0 | 51.1  | 57.0  | 60.8  | 63.7  | 64.4  | 63.2  | 60.5 | 59.6  | 50.7 | 39.6 | 24.9 |      | 167.7 |
| 6300  | 17.6 | 33.9  | 42.6  | 46.1  | 51.6  | 52.1  | 49.5  | 45.8 | 44.9  | 34.3 | 18.9 |      |      | 169.2 |
| 8000  |      | 7.2   | 18.4  | 24.3  | 30.3  | 31.2  | 27.7  | 23.9 | 20.8  | 7.0  |      |      |      | 171.6 |
| 10000 |      |       |       |       |       | 1.3   |       |      |       |      |      |      |      | 173.0 |
| 12500 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 16000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 20000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 25000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 31500 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 40000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 50000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 63000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| 80000 |      |       |       |       |       |       |       |      |       |      |      |      |      |       |
| GASPL | 87.2 | 90.4  | 92.2  | 92.4  | 92.9  | 92.2  | 90.2  | 87.6 | 88.9  | 87.6 | 85.1 | 81.7 | 80.6 | 179.4 |
| PNL   | 95.2 | 99.8  | 102.2 | 103.1 | 102.9 | 102.9 | 101.7 | 99.3 | 100.7 | 96.9 | 92.4 | 86.8 | 83.8 |       |
| PNLT  | 95.2 | 100.4 | 102.8 | 104.1 | 103.9 | 102.9 | 101.7 | 99.3 | 101.2 | 97.5 | 92.4 | 86.8 | 83.8 |       |
| DBA   | 87.1 | 90.7  | 92.7  | 93.0  | 93.4  | 92.8  | 90.5  | 87.5 | 88.3  | 84.8 | 80.7 | 75.7 | 73.8 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH233 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 52.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1634.5 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1725.0 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1416 TAPE = X14161 TEST PT NO = 1416 NC = AE058 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1417 XT1417C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.8  | 80.1  | 77.6  | 76.9  | 80.7  | 79.1  | 77.7  | 81.6  | 81.1  | 78.2  | 85.8  | 87.2  | 89.1  | 124.1 |
| 63    | 88.7  | 85.0  | 80.7  | 83.8  | 87.6  | 85.5  | 85.6  | 88.0  | 87.7  | 84.5  | 84.9  | 86.9  | 91.0  | 128.5 |
| 80    | 84.9  | 88.7  | 85.0  | 86.8  | 86.4  | 88.2  | 89.1  | 88.5  | 89.2  | 89.8  | 88.9  | 92.6  | 95.8  | 131.1 |
| 100   | 85.5  | 90.0  | 86.0  | 87.3  | 88.7  | 88.5  | 88.7  | 90.8  | 89.5  | 91.1  | 93.5  | 97.4  | 100.1 | 133.6 |
| 125   | 83.2  | 86.2  | 88.0  | 89.0  | 82.6  | 89.7  | 90.1  | 90.7  | 90.5  | 92.3  | 96.7  | 101.1 | 103.5 | 135.9 |
| 160   | 82.7  | 80.2  | 86.0  | 85.0  | 86.9  | 86.7  | 90.9  | 87.8  | 88.7  | 91.5  | 97.4  | 101.4 | 105.8 | 136.5 |
| 200   | 82.8  | 84.6  | 84.6  | 85.9  | 86.8  | 87.9  | 90.5  | 91.4  | 92.9  | 93.2  | 98.6  | 103.5 | 107.2 | 138.1 |
| 250   | 82.5  | 87.8  | 86.1  | 86.1  | 87.0  | 89.3  | 91.7  | 92.9  | 93.8  | 97.9  | 103.8 | 108.2 | 109.9 | 141.7 |
| 315   | 84.6  | 86.7  | 86.2  | 89.0  | 90.1  | 90.2  | 93.6  | 93.5  | 95.7  | 99.2  | 103.9 | 108.8 | 111.2 | 142.6 |
| 400   | 83.2  | 86.8  | 87.3  | 87.3  | 83.2  | 90.0  | 100.7 | 94.1  | 96.8  | 100.8 | 105.2 | 110.4 | 111.6 | 143.9 |
| 500   | 85.2  | 86.5  | 87.3  | 88.3  | 89.2  | 90.0  | 92.7  | 94.1  | 97.1  | 101.6 | 105.5 | 109.7 | 111.3 | 143.4 |
| 630   | 84.9  | 87.5  | 88.5  | 89.5  | 89.9  | 91.7  | 92.1  | 94.5  | 96.7  | 102.3 | 104.9 | 108.4 | 109.3 | 142.3 |
| 800   | 85.9  | 87.2  | 89.5  | 89.8  | 90.4  | 92.0  | 93.4  | 95.5  | 97.8  | 102.3 | 104.7 | 105.9 | 106.8 | 141.2 |
| 1000  | 88.9  | 89.2  | 91.0  | 90.8  | 91.9  | 92.5  | 94.1  | 95.8  | 98.5  | 101.8 | 103.7 | 104.1 | 104.3 | 140.3 |
| 1250  | 89.0  | 91.6  | 91.3  | 92.0  | 93.0  | 93.8  | 95.2  | 95.9  | 98.6  | 102.2 | 103.5 | 102.2 | 102.2 | 140.0 |
| 1600  | 89.8  | 92.2  | 92.9  | 92.2  | 93.7  | 94.1  | 95.2  | 97.0  | 99.1  | 101.4 | 102.8 | 101.2 | 101.0 | 139.7 |
| 2000  | 91.5  | 91.9  | 92.8  | 93.2  | 93.6  | 93.9  | 95.2  | 96.7  | 99.1  | 101.4 | 102.1 | 100.2 | 99.2  | 139.4 |
| 2500  | 91.8  | 93.8  | 94.1  | 94.1  | 94.7  | 94.8  | 95.8  | 97.9  | 100.2 | 103.3 | 101.5 | 100.1 | 99.1  | 140.2 |
| 3150  | 93.1  | 94.7  | 95.2  | 94.2  | 94.6  | 95.9  | 97.0  | 98.2  | 99.8  | 103.1 | 102.6 | 100.6 | 100.3 | 140.7 |
| 4000  | 94.8  | 95.7  | 97.8  | 96.5  | 96.4  | 95.9  | 96.8  | 98.9  | 101.0 | 103.7 | 102.7 | 102.2 | 102.7 | 141.7 |
| 5000  | 99.0  | 100.3 | 99.9  | 98.3  | 96.6  | 97.1  | 96.9  | 99.3  | 102.2 | 103.8 | 104.7 | 104.7 | 105.0 | 143.5 |
| 6300  | 102.2 | 104.7 | 103.8 | 102.2 | 99.8  | 98.0  | 98.3  | 100.2 | 101.4 | 103.5 | 104.6 | 106.6 | 106.4 | 145.4 |
| 8000  | 102.0 | 105.9 | 106.9 | 105.9 | 103.3 | 101.1 | 98.6  | 99.9  | 101.1 | 103.2 | 104.2 | 105.5 | 106.1 | 146.9 |
| 10000 | 100.2 | 104.2 | 106.4 | 108.1 | 107.0 | 105.0 | 102.2 | 100.9 | 100.8 | 102.4 | 102.9 | 105.4 | 105.4 | 148.3 |
| 12500 | 99.1  | 100.6 | 103.5 | 105.5 | 105.6 | 106.6 | 103.6 | 101.8 | 101.1 | 99.9  | 101.0 | 103.1 | 102.8 | 147.9 |
| 16000 | 96.5  | 99.3  | 100.5 | 102.1 | 103.8 | 104.2 | 103.3 | 102.1 | 101.1 | 98.7  | 99.2  | 100.8 | 100.1 | 147.6 |
| 20000 | 94.6  | 96.4  | 98.5  | 100.4 | 100.7 | 101.2 | 101.5 | 101.1 | 100.4 | 97.4  | 97.1  | 98.7  | 97.8  | 147.3 |
| 25000 | 91.9  | 94.5  | 96.7  | 98.4  | 99.1  | 99.9  | 100.1 | 99.3  | 99.2  | 96.0  | 95.3  | 95.5  | 93.7  | 148.0 |
| 31500 | 86.0  | 89.8  | 91.3  | 93.9  | 94.4  | 95.0  | 94.5  | 93.8  | 94.3  | 92.5  | 90.8  | 90.9  | 88.2  | 146.2 |
| 40000 | 83.4  | 87.5  | 89.5  | 91.2  | 92.5  | 92.9  | 92.5  | 91.8  | 91.8  | 89.9  | 88.5  | 88.2  | 84.9  | 147.9 |
| 50000 | 80.4  | 85.0  | 87.6  | 88.7  | 90.0  | 90.2  | 89.4  | 88.9  | 89.3  | 88.0  | 85.4  | 87.1  | 82.4  | 149.8 |
| 63000 | 78.0  | 82.8  | 85.8  | 85.9  | 87.5  | 87.9  | 86.9  | 87.1  | 86.7  | 86.8  | 84.8  | 85.2  | 79.7  | 152.9 |
| 80000 | 73.4  | 80.9  | 84.5  | 83.1  | 84.2  | 86.1  | 83.2  | 83.7  | 84.7  | 83.6  | 82.6  | 81.6  | 73.1  | 157.1 |

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CASFL 109.2 111.9 113.0 113.5 113.0 112.8 112.1 112.0 113.1 115.1 116.7 119.1 120.3 161.8  
PNL 121.1 123.4 123.4 122.8 121.9 121.1 121.7 123.0 125.1 127.7 128.6 129.8 130.3  
PNLT 121.1 123.4 123.4 122.8 121.9 121.1 123.0 123.0 125.1 127.7 128.6 129.8 130.3  
DBA 107.6 110.3 110.9 110.6 109.3 108.4 108.4 109.5 111.5 114.3 115.3 116.4 117.1

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH214     | TEST DATE = 08-16-82 | LOCAT = C41 ANECH CH   | CONFIG = 4           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 80.00       | PAMB HG = 29.45   | RELHUM = 75.7 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1636.4 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRMB =              | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1731.7 FPS | AE18 = 20.4 SQ IN |                   |
| RUNPT = 82F-ZER-1417 | TAPE = X1417C        | TEST PT NO = 1417      | NC = AE058           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1417 X1417F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.8  | 80.1  | 77.6  | 76.9  | 80.7  | 79.1  | 77.7  | 81.6  | 81.1  | 78.2  | 85.8  | 87.2  | 89.1  | 124.1 |
| 63    | 88.7  | 85.0  | 80.7  | 83.8  | 87.6  | 85.5  | 85.6  | 88.0  | 87.7  | 84.5  | 84.9  | 86.9  | 91.0  | 128.5 |
| 80    | 84.9  | 88.7  | 85.0  | 86.8  | 86.4  | 88.2  | 89.1  | 88.5  | 89.2  | 89.8  | 88.9  | 92.6  | 95.3  | 131.1 |
| 100   | 85.5  | 90.0  | 86.0  | 87.3  | 88.7  | 88.5  | 88.7  | 90.8  | 89.5  | 91.1  | 93.5  | 97.4  | 100.1 | 133.6 |
| 125   | 83.2  | 86.2  | 88.0  | 89.0  | 89.6  | 89.7  | 90.1  | 90.7  | 90.5  | 92.3  | 96.7  | 101.1 | 103.5 | 135.9 |
| 160   | 82.7  | 80.2  | 86.0  | 85.0  | 86.9  | 86.7  | 90.9  | 87.8  | 88.7  | 91.5  | 97.4  | 101.4 | 105.8 | 136.5 |
| 200   | 82.8  | 84.6  | 84.6  | 85.9  | 86.8  | 87.9  | 90.5  | 91.4  | 92.9  | 93.2  | 98.6  | 103.5 | 107.2 | 138.1 |
| 250   | 82.5  | 87.8  | 86.1  | 86.1  | 87.0  | 89.3  | 91.7  | 92.9  | 93.8  | 97.9  | 103.8 | 108.2 | 109.9 | 141.7 |
| 315   | 84.6  | 86.7  | 86.2  | 89.0  | 90.1  | 90.2  | 93.6  | 93.5  | 95.7  | 99.2  | 103.9 | 108.8 | 111.2 | 142.6 |
| 400   | 83.2  | 86.8  | 87.3  | 87.3  | 89.2  | 90.0  | 100.7 | 94.1  | 96.8  | 100.8 | 105.2 | 110.4 | 111.6 | 143.9 |
| 500   | 85.2  | 86.5  | 87.3  | 88.3  | 89.2  | 90.0  | 92.7  | 94.1  | 97.1  | 101.6 | 105.5 | 109.7 | 111.3 | 143.4 |
| 630   | 84.9  | 87.5  | 88.5  | 89.5  | 89.9  | 91.7  | 92.1  | 94.5  | 96.7  | 102.3 | 104.9 | 108.4 | 109.3 | 142.3 |
| 800   | 85.9  | 87.2  | 89.5  | 89.8  | 90.4  | 92.0  | 93.4  | 95.5  | 97.8  | 102.3 | 104.7 | 105.9 | 106.8 | 141.2 |
| 1000  | 88.9  | 89.2  | 91.0  | 90.8  | 91.9  | 92.5  | 94.1  | 95.8  | 98.5  | 101.8 | 103.7 | 104.1 | 104.3 | 140.3 |
| 1250  | 89.0  | 91.6  | 91.3  | 92.0  | 93.0  | 93.8  | 95.2  | 95.9  | 98.6  | 102.2 | 103.5 | 102.2 | 102.2 | 140.0 |
| 1600  | 89.8  | 92.2  | 92.9  | 92.2  | 93.7  | 94.1  | 95.2  | 97.0  | 99.1  | 101.4 | 102.8 | 101.2 | 101.0 | 139.7 |
| 2000  | 91.5  | 91.9  | 92.8  | 93.2  | 93.6  | 93.9  | 95.2  | 96.7  | 99.1  | 101.4 | 102.1 | 100.2 | 99.2  | 139.4 |
| 2500  | 91.8  | 93.8  | 94.1  | 94.1  | 94.7  | 94.8  | 95.8  | 97.9  | 100.2 | 103.3 | 101.5 | 100.1 | 99.1  | 140.2 |
| 3150  | 93.1  | 94.7  | 95.2  | 94.2  | 94.6  | 95.9  | 97.0  | 98.2  | 99.8  | 103.1 | 102.6 | 100.6 | 100.3 | 140.7 |
| 4000  | 94.8  | 95.7  | 97.8  | 96.5  | 95.4  | 95.9  | 96.8  | 98.9  | 101.0 | 103.7 | 102.7 | 102.2 | 102.7 | 141.7 |
| 5000  | 99.0  | 100.3 | 99.9  | 98.3  | 96.6  | 97.1  | 96.9  | 99.3  | 102.2 | 103.8 | 104.7 | 104.7 | 105.0 | 143.5 |
| 6300  | 102.2 | 104.7 | 103.8 | 102.2 | 99.8  | 98.0  | 98.3  | 100.2 | 101.4 | 103.5 | 104.6 | 106.6 | 106.4 | 145.4 |
| 8000  | 102.0 | 105.9 | 106.9 | 105.9 | 103.3 | 101.1 | 98.6  | 99.9  | 101.1 | 103.2 | 104.2 | 105.6 | 106.1 | 146.9 |
| 10000 | 100.2 | 104.2 | 106.4 | 108.1 | 107.0 | 105.0 | 102.2 | 100.9 | 100.8 | 102.4 | 102.9 | 105.4 | 105.4 | 148.3 |
| 12500 | 99.1  | 100.6 | 103.5 | 105.5 | 105.6 | 106.6 | 103.6 | 101.8 | 101.1 | 99.9  | 101.0 | 103.1 | 102.8 | 147.9 |
| 16000 | 96.5  | 99.3  | 100.5 | 102.1 | 103.8 | 104.2 | 103.3 | 102.1 | 101.1 | 98.7  | 99.2  | 100.8 | 100.1 | 147.6 |
| 20000 | 94.6  | 96.4  | 98.5  | 100.4 | 100.7 | 101.2 | 101.5 | 101.1 | 100.4 | 97.4  | 97.1  | 98.7  | 97.8  | 147.3 |
| 25000 | 91.9  | 94.5  | 96.7  | 98.4  | 99.1  | 99.9  | 100.1 | 99.3  | 99.2  | 96.0  | 95.3  | 95.9  | 93.7  | 148.0 |
| 31500 | 86.0  | 89.8  | 91.3  | 93.9  | 94.4  | 95.0  | 94.5  | 93.8  | 94.3  | 92.5  | 90.8  | 90.9  | 88.2  | 146.2 |
| 40000 | 83.4  | 87.5  | 89.5  | 91.2  | 92.5  | 92.9  | 92.5  | 91.8  | 91.8  | 89.9  | 88.5  | 88.2  | 84.9  | 147.9 |
| 50000 | 80.4  | 85.0  | 87.6  | 88.7  | 90.0  | 90.2  | 89.4  | 88.9  | 89.3  | 88.0  | 85.4  | 87.1  | 82.4  | 149.8 |
| 63000 | 78.0  | 82.8  | 85.0  | 85.9  | 87.5  | 87.9  | 86.9  | 87.1  | 86.7  | 86.8  | 84.8  | 85.2  | 79.7  | 152.9 |
| 80000 | 73.4  | 80.9  | 84.5  | 83.1  | 84.2  | 86.1  | 83.2  | 83.7  | 84.7  | 83.6  | 82.6  | 81.6  | 73.1  | 157.1 |

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8ASPL 109.2 111.9 113.0 113.5 113.0 112.8 112.1 112.0 113.1 115.1 116.7 119.1 120.3 161.8  
 PNL 121.1 123.4 123.4 122.8 121.9 121.1 121.7 123.0 125.1 127.7 128.6 129.8 130.3  
 PNLT 121.1 123.4 123.4 121.9 121.1 123.0 123.0 125.1 127.7 128.6 129.8 130.3  
 DBA 194.7 201.7 205.1 204.0 205.2 206.9 204.3 204.7 205.5 204.5 203.3 202.6 195.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH214 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLFA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNINI = LBS XNL = RPM XNH = RPM V8 = 1636.4 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1731.7 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1417 TAPE = X1417F TEST PT NO = 1417 NC = AE05R CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F. 75 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-1417 X14171

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|-------|
| 50    | 61.4 | 66.5 | 68.0 | 68.8  | 71.0  | 72.0  | 82.5  | 75.5  | 77.5  | 80.5 | 83.4 | 86.4 | 84.2 | 161.5 |
| 63    | 63.4 | 66.2 | 68.0 | 69.8  | 71.0  | 72.0  | 74.5  | 75.5  | 77.8  | 81.3 | 83.6 | 85.6 | 83.9 | 161.0 |
| 80    | 63.0 | 67.1 | 69.2 | 70.9  | 71.7  | 73.7  | 73.9  | 75.9  | 77.4  | 81.9 | 83.0 | 84.2 | 81.7 | 159.9 |
| 100   | 63.9 | 66.8 | 70.2 | 71.2  | 72.2  | 73.9  | 75.2  | 76.9  | 78.4  | 81.9 | 82.7 | 81.6 | 79.1 | 158.8 |
| 125   | 66.8 | 68.7 | 71.6 | 72.1  | 73.6  | 74.3  | 75.8  | 77.1  | 79.1  | 81.3 | 81.6 | 79.7 | 76.4 | 157.9 |
| 160   | 66.7 | 70.9 | 71.8 | 73.1  | 74.5  | 75.6  | 76.8  | 77.0  | 79.0  | 81.5 | 81.2 | 77.6 | 73.9 | 157.6 |
| 200   | 67.2 | 71.3 | 73.1 | 73.2  | 75.2  | 75.7  | 76.6  | 78.0  | 79.4  | 80.5 | 80.3 | 76.3 | 72.2 | 157.3 |
| 250   | 68.6 | 70.8 | 72.9 | 74.0  | 74.8  | 75.3  | 76.4  | 77.5  | 79.1  | 80.2 | 79.3 | 74.8 | 69.8 | 157.0 |
| 315   | 68.5 | 72.3 | 73.8 | 74.6  | 75.7  | 75.9  | 76.7  | 78.4  | 80.0  | 81.8 | 78.2 | 74.2 | 68.9 | 157.8 |
| 400   | 69.3 | 72.8 | 74.6 | 74.4  | 75.2  | 76.7  | 77.7  | 78.4  | 79.2  | 81.2 | 78.8 | 74.0 | 69.1 | 158.3 |
| 500   | 70.5 | 73.4 | 76.9 | 76.4  | 75.8  | 76.5  | 77.2  | 78.8  | 80.0  | 81.4 | 78.4 | 75.0 | 70.5 | 159.3 |
| 630   | 74.3 | 77.6 | 78.6 | 77.9  | 76.7  | 77.3  | 77.1  | 78.9  | 80.9  | 81.1 | 79.9 | 76.8 | 71.7 | 161.1 |
| 800   | 76.9 | 81.7 | 82.2 | 81.5  | 79.6  | 78.0  | 78.1  | 79.5  | 79.8  | 80.5 | 79.3 | 78.0 | 72.0 | 163.0 |
| 1000  | 76.3 | 82.5 | 85.1 | 85.1  | 83.1  | 81.1  | 78.3  | 79.1  | 79.3  | 79.8 | 79.5 | 76.2 | 70.6 | 164.5 |
| 1250  | 74.0 | 80.4 | 84.4 | 87.1  | 86.6  | 84.8  | 81.8  | 79.9  | 78.7  | 78.6 | 76.6 | 75.2 | 68.4 | 165.9 |
| 1600  | 72.0 | 76.3 | 81.0 | 84.1  | 84.9  | 86.1  | 82.9  | 80.4  | 78.6  | 75.6 | 73.9 | 71.6 | 63.5 | 165.5 |
| 2000  | 68.4 | 74.4 | 77.6 | 80.6  | 82.9  | 83.6  | 82.4  | 80.6  | 78.3  | 73.8 | 71.1 | 67.7 | 57.7 | 163.2 |
| 2500  | 64.7 | 70.3 | 74.8 | 78.1  | 79.3  | 80.1  | 80.1  | 78.9  | 76.7  | 71.3 | 67.3 | 62.8 | 50.6 | 164.9 |
| 3150  | 58.7 | 65.9 | 71.1 | 74.6  | 76.3  | 77.5  | 77.3  | 75.5  | 73.6  | 67.5 | 62.1 | 55.0 | 38.0 | 165.6 |
| 4000  | 46.6 | 56.5 | 61.9 | 66.8  | 68.7  | 69.7  | 68.8  | 66.7  | 64.9  | 59.2 | 51.4 | 41.1 | 18.0 | 163.8 |
| 5000  | 34.2 | 46.6 | 53.8 | 58.7  | 61.8  | 62.7  | 61.7  | 59.3  | 56.1  | 49.0 | 39.3 | 24.7 |      | 165.5 |
| 6300  | 13.4 | 29.9 | 39.9 | 45.4  | 49.1  | 50.1  | 48.6  | 45.6  | 41.5  | 32.9 | 18.4 |      |      | 167.3 |
| 8000  |      | 2.9  | 16.7 | 23.3  | 28.6  | 30.1  | 27.9  | 24.6  | 17.6  | 6.9  |      |      |      | 170.5 |
| 10000 |      |      |      |       |       | 1.9   |       |       |       |      |      |      |      | 174.7 |
| 2500  |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |      |      |      |      |       |
| CASPL | 83.6 | 88.4 | 91.0 | 92.4  | 92.3  | 92.3  | 91.7  | 91.1  | 91.6  | 92.9 | 92.7 | 92.4 | 89.6 | 179.3 |
| PNL   | 90.7 | 95.6 | 99.2 | 101.5 | 102.3 | 103.0 | 102.1 | 101.2 | 100.3 | 98.4 | 96.8 | 94.3 | 88.7 |       |
| PNLT  | 90.7 | 96.2 | 99.7 | 101.5 | 102.3 | 103.0 | 102.1 | 101.2 | 100.8 | 99.0 | 96.8 | 94.3 | 88.7 |       |
| DBA   | 82.5 | 87.8 | 90.6 | 92.3  | 92.3  | 92.2  | 90.4  | 89.3  | 88.6  | 88.1 | 86.3 | 83.8 | 78.0 |       |

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MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.583      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH214      TEST DATE = 08-16-82      LOCAT = C41 ANECH CH      CONFIG = 4      MODEL = AX      FLTVEL = 0. FPS  
IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 80.00      PAMB HG = 29.45      RELHUM = 75.7 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1636.4 FPS      AE8 = 4.0 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 1731.7 FPS      AE18 = 20.4 SQ IN

RUNPT = 82F-2ER-1417      TAPE = X14171      TEST PT NO = 1417      NC = AE058      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1419 X1419C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.0  | 80.3  | 79.8  | 81.6  | 82.7  | 80.3  | 81.0  | 81.9  | 82.6  | 83.4  | 89.3  | 89.0  | 91.6  | 126.3 |
| 63    | 88.9  | 87.7  | 85.5  | 86.8  | 89.4  | 87.0  | 87.9  | 85.8  | 89.0  | 88.5  | 90.7  | 89.4  | 93.5  | 130.5 |
| 80    | 87.2  | 91.0  | 87.0  | 89.5  | 89.4  | 90.7  | 91.4  | 90.3  | 91.7  | 91.6  | 91.9  | 94.9  | 98.0  | 133.4 |
| 100   | 88.0  | 92.8  | 88.5  | 89.8  | 91.2  | 91.0  | 91.4  | 93.8  | 91.5  | 93.3  | 96.5  | 99.9  | 103.1 | 136.3 |
| 125   | 85.9  | 88.4  | 90.7  | 91.5  | 92.1  | 92.0  | 92.1  | 93.5  | 92.5  | 94.5  | 99.7  | 104.3 | 106.8 | 138.9 |
| 160   | 85.9  | 82.5  | 87.7  | 87.3  | 88.9  | 89.0  | 93.9  | 90.3  | 90.7  | 94.0  | 100.4 | 104.6 | 108.8 | 139.5 |
| 200   | 85.6  | 87.4  | 87.4  | 88.4  | 89.5  | 90.1  | 93.3  | 94.4  | 95.9  | 96.2  | 101.3 | 106.8 | 110.9 | 141.5 |
| 250   | 85.3  | 90.8  | 88.6  | 89.1  | 89.2  | 91.8  | 94.2  | 95.4  | 96.3  | 100.1 | 106.5 | 111.2 | 113.9 | 145.0 |
| 315   | 86.4  | 88.9  | 88.4  | 91.2  | 92.8  | 93.2  | 96.1  | 96.2  | 97.9  | 102.2 | 107.1 | 112.3 | 115.2 | 146.2 |
| 400   | 86.2  | 89.0  | 90.0  | 89.6  | 91.4  | 92.5  | 102.4 | 96.5  | 99.0  | 104.3 | 109.0 | 113.9 | 115.1 | 147.3 |
| 500   | 87.5  | 89.3  | 89.8  | 90.3  | 91.7  | 92.8  | 94.9  | 96.8  | 99.3  | 104.6 | 109.3 | 114.2 | 115.8 | 147.5 |
| 630   | 87.7  | 89.5  | 91.2  | 92.0  | 92.6  | 93.5  | 94.6  | 97.5  | 99.0  | 105.8 | 109.2 | 113.6 | 115.3 | 147.2 |
| 800   | 88.9  | 90.0  | 91.8  | 93.0  | 93.6  | 94.5  | 95.9  | 98.3  | 100.8 | 105.8 | 108.7 | 112.1 | 114.0 | 146.4 |
| 1000  | 93.2  | 93.0  | 94.5  | 93.8  | 94.4  | 95.0  | 96.4  | 98.5  | 101.2 | 105.8 | 107.4 | 110.6 | 113.0 | 145.6 |
| 1250  | 93.3  | 95.1  | 94.8  | 95.5  | 96.2  | 97.3  | 98.2  | 99.1  | 101.3 | 105.9 | 107.0 | 108.2 | 111.0 | 144.6 |
| 1600  | 95.5  | 95.9  | 95.6  | 95.2  | 95.7  | 96.8  | 97.9  | 100.0 | 101.9 | 105.2 | 106.6 | 107.0 | 110.0 | 144.1 |
| 2000  | 100.3 | 98.2  | 98.6  | 98.0  | 96.3  | 96.2  | 97.9  | 99.0  | 101.8 | 104.6 | 105.6 | 105.7 | 108.2 | 143.7 |
| 2500  | 100.0 | 100.0 | 100.1 | 99.8  | 98.7  | 98.3  | 98.3  | 100.9 | 103.2 | 106.0 | 104.5 | 105.4 | 107.1 | 144.3 |
| 3150  | 100.6 | 100.7 | 100.5 | 100.7 | 99.3  | 99.9  | 99.8  | 100.1 | 102.6 | 105.4 | 105.1 | 104.6 | 105.8 | 144.3 |
| 4000  | 100.1 | 101.0 | 102.3 | 101.5 | 100.2 | 99.7  | 99.8  | 101.1 | 103.5 | 105.7 | 104.9 | 104.5 | 105.0 | 144.7 |
| 5000  | 100.8 | 102.3 | 103.6 | 102.8 | 101.6 | 100.8 | 100.4 | 101.8 | 104.2 | 106.1 | 106.4 | 106.5 | 105.5 | 145.9 |
| 6300  | 100.9 | 102.7 | 104.8 | 104.4 | 103.5 | 102.2 | 101.3 | 101.7 | 103.7 | 105.8 | 106.6 | 106.6 | 106.4 | 146.7 |
| 8000  | 100.5 | 103.6 | 105.2 | 105.7 | 104.3 | 104.1 | 102.3 | 102.4 | 103.6 | 105.2 | 105.2 | 105.7 | 105.4 | 147.3 |
| 10000 | 100.2 | 103.4 | 105.2 | 105.8 | 106.0 | 106.0 | 105.2 | 103.4 | 103.3 | 104.6 | 104.4 | 105.4 | 104.6 | 148.4 |
| 12500 | 98.8  | 101.1 | 104.0 | 105.5 | 104.8 | 106.1 | 105.1 | 104.3 | 103.8 | 102.9 | 102.7 | 102.8 | 102.8 | 148.5 |
| 16000 | 96.2  | 99.3  | 101.0 | 102.9 | 103.8 | 103.7 | 103.1 | 104.1 | 103.1 | 100.7 | 100.7 | 100.8 | 100.1 | 148.1 |
| 20000 | 94.3  | 96.4  | 98.3  | 100.6 | 101.2 | 102.0 | 101.3 | 101.1 | 100.9 | 97.7  | 98.9  | 98.2  | 97.8  | 147.6 |
| 25000 | 91.4  | 94.5  | 96.5  | 98.4  | 99.6  | 100.2 | 100.3 | 99.3  | 99.5  | 97.3  | 96.5  | 96.9  | 94.0  | 148.3 |
| 31500 | 85.5  | 89.8  | 92.1  | 94.1  | 94.4  | 95.5  | 95.0  | 94.6  | 95.1  | 93.0  | 91.6  | 91.4  | 87.4  | 146.6 |
| 40000 | 83.1  | 87.5  | 90.0  | 91.2  | 92.5  | 93.2  | 93.0  | 92.3  | 92.3  | 91.1  | 89.8  | 88.2  | 84.4  | 148.3 |
| 50000 | 80.6  | 84.8  | 87.6  | 88.7  | 90.0  | 90.7  | 90.2  | 90.2  | 90.3  | 89.3  | 87.6  | 86.9  | 81.4  | 150.3 |
| 63000 | 77.8  | 82.5  | 86.0  | 85.6  | 87.8  | 88.4  | 87.1  | 87.9  | 88.7  | 87.8  | 86.5  | 85.2  | 78.9  | 153.5 |
| 80000 | 74.7  | 80.2  | 84.5  | 83.1  | 84.5  | 85.9  | 84.2  | 84.7  | 86.2  | 85.8  | 84.6  | 81.8  | 74.4  | 157.8 |

OASPL 110.8 112.4 113.8 114.2 113.9 114.1 114.0 114.1 115.4 117.9 119.7 122.8 124.7 163.1

PNL 123.3 124.3 125.4 125.2 124.6 124.2 124.5 125.4 127.5 130.2 131.2 132.6 133.9

PNLT 123.3 125.0 125.4 125.4 124.6 124.2 125.7 125.4 127.5 130.2 131.2 132.6 133.9

DBA 110.3 111.3 112.4 112.3 111.4 111.3 111.3 112.1 114.1 117.2 118.3 120.5 122.3

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH215 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1640.2 FPS AE8 = 4.0 SQ IN  
FNIRMB = LBS XNLR = RPM XNHR = RPM V18 = 1847.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1419 TAPE = X1419C TEST PT NO = 1419 NC = AE058 CORR FAN SPEED = RPM

ORIGINAL PAGE 18  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1419 X1419F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.0  | 80.3  | 79.8  | 81.6  | 82.7  | 80.3  | 81.0  | 81.9  | 82.6  | 83.4  | 89.3  | 89.0  | 91.6  | 126.3 |
| 63    | 88.9  | 87.7  | 85.5  | 86.8  | 89.4  | 87.0  | 87.9  | 85.8  | 89.0  | 88.5  | 90.7  | 89.4  | 93.5  | 130.5 |
| 80    | 87.2  | 91.0  | 87.0  | 89.5  | 89.4  | 90.7  | 91.4  | 90.3  | 91.7  | 91.6  | 91.9  | 94.9  | 98.0  | 133.4 |
| 100   | 88.0  | 92.8  | 88.5  | 89.8  | 91.2  | 91.0  | 91.4  | 93.8  | 91.5  | 93.3  | 96.5  | 99.9  | 103.1 | 136.3 |
| 125   | 85.9  | 88.4  | 90.7  | 91.5  | 92.1  | 92.0  | 92.1  | 93.5  | 92.5  | 94.5  | 99.7  | 104.3 | 106.8 | 138.9 |
| 160   | 85.9  | 82.5  | 87.7  | 87.3  | 88.9  | 89.0  | 93.9  | 90.3  | 90.7  | 94.0  | 100.4 | 104.6 | 108.8 | 139.5 |
| 200   | 85.6  | 87.4  | 87.4  | 88.4  | 89.5  | 90.1  | 93.3  | 94.4  | 95.9  | 96.2  | 101.3 | 106.8 | 110.9 | 141.5 |
| 250   | 85.3  | 90.8  | 88.6  | 89.1  | 89.2  | 91.8  | 94.2  | 95.4  | 96.3  | 100.1 | 106.5 | 111.2 | 113.9 | 145.0 |
| 315   | 86.4  | 88.9  | 88.4  | 91.2  | 92.8  | 93.2  | 96.1  | 96.2  | 97.9  | 102.2 | 107.1 | 112.3 | 115.2 | 146.2 |
| 400   | 86.2  | 89.0  | 90.0  | 89.6  | 91.4  | 92.5  | 102.4 | 96.6  | 99.0  | 104.3 | 109.0 | 113.9 | 115.1 | 147.3 |
| 500   | 87.5  | 89.3  | 89.8  | 90.3  | 91.7  | 92.8  | 94.9  | 96.8  | 99.3  | 104.6 | 109.3 | 114.2 | 115.8 | 147.5 |
| 630   | 87.7  | 89.5  | 91.2  | 92.0  | 92.6  | 93.5  | 94.6  | 97.5  | 99.0  | 105.8 | 109.2 | 113.6 | 115.3 | 147.2 |
| 800   | 88.9  | 90.0  | 91.8  | 93.0  | 93.6  | 94.5  | 95.9  | 98.3  | 100.8 | 105.8 | 108.7 | 112.1 | 114.0 | 146.4 |
| 1000  | 93.2  | 93.0  | 94.5  | 93.8  | 94.4  | 95.0  | 96.4  | 98.5  | 101.2 | 105.8 | 107.4 | 110.6 | 113.0 | 145.6 |
| 1250  | 93.3  | 95.1  | 94.8  | 95.5  | 96.2  | 97.3  | 98.2  | 99.1  | 101.3 | 105.9 | 107.0 | 108.2 | 111.0 | 144.6 |
| 1600  | 95.5  | 95.9  | 95.6  | 95.2  | 95.7  | 96.8  | 97.9  | 100.0 | 101.9 | 105.2 | 106.6 | 107.0 | 110.0 | 144.1 |
| 2000  | 100.3 | 98.2  | 98.6  | 98.0  | 96.3  | 96.2  | 97.9  | 99.0  | 101.8 | 104.6 | 105.6 | 105.7 | 108.2 | 143.7 |
| 2500  | 100.0 | 100.0 | 100.1 | 99.3  | 98.7  | 98.3  | 98.3  | 100.9 | 103.2 | 106.0 | 104.5 | 105.4 | 107.1 | 144.3 |
| 3150  | 100.6 | 100.7 | 100.5 | 100.7 | 99.3  | 99.9  | 99.8  | 100.7 | 102.6 | 105.4 | 105.1 | 104.6 | 105.8 | 144.3 |
| 4000  | 100.1 | 101.0 | 102.3 | 101.5 | 100.2 | 99.7  | 99.8  | 101.1 | 103.5 | 105.7 | 104.9 | 104.5 | 105.0 | 144.7 |
| 5000  | 100.8 | 102.3 | 103.6 | 102.8 | 101.6 | 100.8 | 100.4 | 101.8 | 104.2 | 106.1 | 106.4 | 106.5 | 105.5 | 145.9 |
| 6300  | 100.9 | 102.7 | 104.8 | 104.4 | 103.5 | 102.2 | 101.3 | 101.7 | 103.7 | 105.8 | 106.6 | 106.6 | 106.4 | 146.7 |
| 8000  | 100.5 | 103.6 | 105.2 | 105.7 | 104.3 | 104.1 | 102.3 | 102.4 | 103.6 | 105.2 | 105.2 | 105.7 | 105.4 | 147.3 |
| 10000 | 100.2 | 103.4 | 105.2 | 105.8 | 106.0 | 106.0 | 105.2 | 103.4 | 103.3 | 104.6 | 104.4 | 105.4 | 104.6 | 148.4 |
| 12500 | 98.8  | 101.1 | 104.0 | 105.5 | 104.8 | 106.1 | 105.1 | 104.3 | 103.8 | 102.9 | 102.7 | 102.8 | 102.8 | 148.5 |
| 16000 | 96.2  | 99.3  | 101.0 | 102.9 | 103.8 | 103.7 | 103.1 | 104.1 | 103.1 | 100.7 | 100.7 | 100.8 | 100.1 | 148.1 |
| 20000 | 94.3  | 96.4  | 98.3  | 100.6 | 101.2 | 102.0 | 101.3 | 101.1 | 100.9 | 97.7  | 98.9  | 98.2  | 97.8  | 147.6 |
| 25000 | 91.4  | 94.5  | 96.5  | 98.4  | 99.6  | 100.2 | 100.3 | 99.3  | 99.5  | 97.3  | 96.5  | 96.9  | 94.0  | 148.3 |
| 31500 | 85.5  | 89.8  | 92.1  | 94.1  | 94.4  | 95.5  | 95.0  | 94.6  | 95.1  | 93.0  | 91.6  | 91.4  | 87.4  | 146.6 |
| 40000 | 83.1  | 87.5  | 90.0  | 91.2  | 92.5  | 93.2  | 93.0  | 92.3  | 92.3  | 91.1  | 89.8  | 88.2  | 84.4  | 148.3 |
| 50000 | 80.6  | 84.8  | 87.6  | 88.7  | 90.0  | 90.7  | 90.2  | 90.2  | 90.3  | 89.3  | 87.6  | 86.9  | 81.4  | 150.3 |
| 63000 | 77.8  | 82.5  | 86.0  | 85.6  | 87.8  | 88.4  | 87.1  | 87.9  | 88.7  | 87.8  | 86.5  | 85.2  | 78.9  | 153.5 |
| 80000 | 74.7  | 80.2  | 84.5  | 83.1  | 84.5  | 85.9  | 84.2  | 84.7  | 86.2  | 85.8  | 84.6  | 81.8  | 74.4  | 157.8 |
| 8ASPL | 110.8 | 112.4 | 113.8 | 114.2 | 113.9 | 114.1 | 114.0 | 114.1 | 115.4 | 117.9 | 119.7 | 122.8 | 124.7 | 163.1 |
| PNL   | 123.3 | 124.3 | 125.4 | 125.2 | 124.6 | 124.2 | 124.5 | 125.4 | 127.5 | 130.2 | 131.2 | 132.6 | 133.9 |       |
| PNLT  | 123.3 | 125.0 | 125.4 | 125.2 | 124.6 | 124.2 | 125.7 | 125.4 | 127.5 | 130.2 | 131.2 | 132.6 | 133.9 |       |
| CPA   | 195.6 | 201.0 | 205.2 | 204.0 | 205.5 | 206.7 | 205.2 | 205.7 | 207.0 | 206.5 | 205.3 | 202.8 | 195.7 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH215 TEST DATE = 08-16-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 80.00 PAMB HG = 29.45 RELHUM = 75.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1640.2 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1847.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-ZER-1419 TAPE = X1419F TEST PT NO = 1419 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-1419 X14191

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                                  | 40.         | 50.  | 60.                  | 70.   | 80.                    | 90.   | 100.             | 110.  | 120.              | 130.  | 140.              | 150. | 160. | PWL   |
|----------------------------------------------------------------------------------------------------------------------------------|-------------|------|----------------------|-------|------------------------|-------|------------------|-------|-------------------|-------|-------------------|------|------|-------|
| FREQ                                                                                                                             |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 50                                                                                                                               | 64.4        | 68.7 | 70.8                 | 71.0  | 73.3                   | 74.5  | 84.3             | 78.0  | 79.8              | 84.0  | 87.1              | 89.9 | 87.7 | 164.9 |
| 63                                                                                                                               | 65.6        | 68.9 | 70.5                 | 71.8  | 73.5                   | 74.8  | 76.8             | 78.3  | 80.0              | 84.3  | 87.4              | 90.1 | 88.4 | 165.1 |
| 80                                                                                                                               | 65.7        | 69.1 | 71.9                 | 73.4  | 74.4                   | 75.4  | 76.4             | 78.9  | 79.7              | 85.4  | 87.3              | 89.5 | 87.7 | 164.8 |
| 100                                                                                                                              | 66.9        | 69.5 | 72.4                 | 74.4  | 75.4                   | 76.4  | 77.7             | 79.7  | 81.4              | 85.4  | 86.7              | 87.9 | 86.3 | 164.0 |
| 125                                                                                                                              | 71.1        | 72.4 | 75.1                 | 75.1  | 76.1                   | 76.8  | 78.1             | 79.8  | 81.8              | 85.3  | 85.3              | 86.2 | 85.1 | 163.2 |
| 160                                                                                                                              | 71.0        | 74.4 | 75.3                 | 76.6  | 77.8                   | 79.1  | 79.8             | 80.3  | 81.8              | 85.2  | 84.7              | 83.6 | 82.7 | 162.2 |
| 200                                                                                                                              | 73.0        | 75.0 | 75.9                 | 76.2  | 77.2                   | 78.4  | 79.4             | 81.0  | 82.1              | 84.3  | 84.0              | 82.0 | 81.2 | 161.7 |
| 250                                                                                                                              | 77.4        | 77.0 | 78.6                 | 78.8  | 77.6                   | 77.6  | 79.2             | 79.8  | 81.9              | 83.5  | 82.8              | 80.3 | 78.8 | 161.3 |
| 315                                                                                                                              | 76.7        | 78.5 | 79.8                 | 80.3  | 79.7                   | 79.4  | 79.2             | 81.4  | 83.0              | 84.5  | 81.2              | 79.4 | 76.9 | 161.9 |
| 400                                                                                                                              | 76.8        | 78.8 | 79.8                 | 80.9  | 80.0                   | 80.7  | 80.4             | 80.9  | 81.9              | 83.5  | 81.3              | 78.0 | 74.6 | 161.9 |
| 500                                                                                                                              | 75.8        | 78.7 | 81.4                 | 81.4  | 80.6                   | 80.2  | 80.2             | 81.0  | 82.5              | 83.4  | 80.7              | 77.2 | 72.8 | 162.3 |
| 630                                                                                                                              | 76.0        | 79.6 | 82.3                 | 82.4  | 81.7                   | 81.1  | 80.6             | 81.4  | 82.9              | 83.4  | 81.7              | 78.6 | 72.2 | 163.5 |
| 800                                                                                                                              | 75.7        | 79.7 | 83.2                 | 83.8  | 83.4                   | 82.3  | 81.1             | 81.0  | 82.1              | 82.7  | 81.3              | 78.0 | 72.0 | 164.3 |
| 1000                                                                                                                             | 74.8        | 80.2 | 83.3                 | 84.8  | 84.1                   | 84.1  | 82.1             | 81.6  | 81.8              | 81.8  | 79.5              | 76.4 | 69.8 | 164.9 |
| 1250                                                                                                                             | 74.0        | 79.7 | 83.1                 | 84.8  | 85.6                   | 85.8  | 84.8             | 82.4  | 81.2              | 80.9  | 78.1              | 75.2 | 67.6 | 166.0 |
| 1600                                                                                                                             | 71.7        | 76.8 | 81.5                 | 84.1  | 84.1                   | 85.6  | 84.4             | 82.9  | 81.3              | 78.6  | 75.6              | 71.4 | 63.5 | 166.1 |
| 2000                                                                                                                             | 68.2        | 74.4 | 78.1                 | 81.3  | 82.9                   | 83.1  | 82.2             | 82.6  | 80.3              | 75.8  | 72.6              | 67.7 | 57.7 | 165.7 |
| 2500                                                                                                                             | 64.5        | 70.3 | 74.5                 | 78.4  | 79.8                   | 80.8  | 79.9             | 78.9  | 77.2              | 71.5  | 69.0              | 62.3 | 50.6 | 165.2 |
| 3150                                                                                                                             | 58.2        | 65.9 | 70.9                 | 74.6  | 76.8                   | 77.7  | 77.6             | 75.5  | 73.9              | 68.7  | 63.3              | 56.0 | 38.3 | 165.9 |
| 4000                                                                                                                             | 46.1        | 56.5 | 62.6                 | 67.0  | 68.7                   | 70.2  | 69.3             | 67.5  | 65.6              | 59.7  | 52.1              | 41.6 | 17.3 | 164.2 |
| 5000                                                                                                                             | 33.9        | 46.6 | 54.3                 | 58.7  | 61.8                   | 62.9  | 62.2             | 59.8  | 56.6              | 50.3  | 40.6              | 24.7 |      | 165.9 |
| 6300                                                                                                                             | 13.6        | 29.7 | 39.9                 | 45.4  | 49.1                   | 50.6  | 49.3             | 46.9  | 42.5              | 34.2  | 20.6              |      |      | 167.9 |
| 8000                                                                                                                             |             | 2.6  | 16.9                 | 23.1  | 28.8                   | 30.6  | 28.2             | 25.3  | 19.6              | 7.9   |                   |      |      | 171.1 |
| 10000                                                                                                                            |             |      |                      |       |                        | 1.7   |                  |       |                   |       |                   |      |      | 175.4 |
| 12500                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 16000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 20000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 25000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 31500                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 40000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 50000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 63000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| 80000                                                                                                                            |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| QASPL                                                                                                                            | 86.1        | 89.3 | 92.1                 | 93.3  | 93.4                   | 93.8  | 93.7             | 93.4  | 94.0              | 95.9  | 96.1              | 96.8 | 95.0 | 180.4 |
| PNL                                                                                                                              | 92.2        | 96.7 | 100.4                | 102.5 | 103.2                  | 103.8 | 103.2            | 103.1 | 102.2             | 101.1 | 99.2              | 97.4 | 94.1 |       |
| PNLT                                                                                                                             | 92.2        | 97.2 | 100.4                | 103.0 | 103.2                  | 103.8 | 103.2            | 103.1 | 102.2             | 101.7 | 99.2              | 97.4 | 94.1 |       |
| DBA                                                                                                                              | 83.1        | 87.4 | 90.8                 | 92.4  | 92.7                   | 93.1  | 92.1             | 91.3  | 90.8              | 90.3  | 88.2              | 85.3 | 80.9 |       |
| MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN)    SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)    DIAMETER RATIO = 7.583    FREQ SHIFT = -9 |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166                                                                      |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |
| VEHICL                                                                                                                           | = ADH215    |      | TEST DATE = 08-16-82 |       | LOCAT = C41 ANECH CH   |       | CONFIG = 4       |       | MODEL = AX        |       | FLTVEL = 0. FPS   |      |      |       |
| 1APLHA                                                                                                                           | = SB59      |      | IEGA = NO            |       | PWL AREA = FULL SPHERE |       | TAMB F = 80.00   |       | PAMB HG = 29.45   |       | RELHUM = 75.7 PCT |      |      |       |
| WIND DIR                                                                                                                         |             |      | DEG WIND VEL = MPH   |       | EXT DIST = 2400.0 FT   |       | EXT CONFIG = SL  |       | MIKE HT =         |       | NBFR =            |      |      |       |
| FNIN1                                                                                                                            | = LBS XNL   |      | = RPM                |       | XNH = RPM              |       | V8 = 1640.2 FPS  |       | AE8 = 4.0 SQ IN   |       |                   |      |      |       |
| FNRAMB                                                                                                                           | = LBS XNL.R |      | = RPM                |       | XNHR = RPM             |       | V18 = 1847.9 FPS |       | AE18 = 20.4 SQ IN |       |                   |      |      |       |
| RUNPT = 82F-2ER-1419 TAPE = X14191    TEST PT NO = 1419    NC = AE058    CORR FAN SPEED = RPM                                    |             |      |                      |       |                        |       |                  |       |                   |       |                   |      |      |       |

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PI185-03

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1420 X1420C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110   | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.3  | 86.1  | 80.8  | 80.9  | 80.5  | 80.3  | 82.0  | 83.6  | 83.3  | 84.9  | 91.3  | 91.0  | 98.1  | 129.4 |
| 63    | 88.9  | 91.0  | 86.7  | 83.5  | 88.4  | 84.7  | 87.9  | 90.5  | 87.5  | 85.8  | 88.9  | 89.6  | 97.5  | 131.2 |
| 80    | 86.7  | 91.2  | 87.5  | 88.5  | 88.6  | 89.7  | 91.4  | 90.5  | 91.5  | 91.1  | 91.4  | 93.6  | 99.0  | 133.2 |
| 100   | 86.2  | 91.3  | 86.5  | 87.8  | 89.2  | 88.8  | 90.7  | 92.1  | 89.8  | 90.1  | 93.0  | 97.7  | 102.3 | 134.5 |
| 125   | 84.7  | 87.2  | 88.5  | 90.0  | 90.6  | 90.7  | 91.3  | 91.7  | 90.2  | 92.0  | 97.2  | 102.3 | 106.0 | 137.4 |
| 160   | 83.7  | 80.0  | 85.7  | 84.8  | 86.4  | 86.0  | 92.4  | 87.5  | 88.2  | 91.5  | 97.9  | 101.9 | 107.3 | 137.4 |
| 200   | 85.6  | 83.1  | 82.9  | 83.2  | 85.3  | 86.1  | 89.5  | 90.2  | 92.1  | 92.7  | 96.8  | 103.3 | 108.2 | 138.2 |
| 250   | 81.8  | 84.3  | 83.3  | 84.4  | 84.5  | 86.8  | 89.5  | 91.1  | 91.6  | 95.2  | 102.3 | 107.0 | 109.4 | 140.6 |
| 315   | 83.1  | 83.4  | 82.9  | 85.5  | 86.1  | 86.9  | 91.3  | 91.0  | 93.2  | 97.5  | 102.9 | 108.1 | 109.7 | 141.3 |
| 400   | 80.2  | 82.5  | 83.3  | 83.3  | 85.2  | 85.3  | 95.9  | 90.6  | 93.0  | 98.4  | 104.0 | 108.4 | 108.8 | 141.5 |
| 500   | 80.8  | 82.3  | 83.1  | 84.1  | 84.4  | 86.6  | 89.4  | 91.1  | 93.3  | 99.6  | 105.0 | 108.2 | 106.8 | 141.1 |
| 630   | 80.2  | 82.5  | 84.0  | 84.5  | 85.6  | 87.0  | 88.4  | 91.0  | 93.0  | 100.3 | 103.9 | 107.4 | 103.5 | 140.0 |
| 800   | 81.7  | 83.5  | 85.0  | 85.5  | 86.4  | 87.5  | 89.1  | 92.3  | 94.3  | 100.6 | 103.7 | 104.4 | 99.5  | 138.7 |
| 1000  | 85.9  | 85.5  | 85.8  | 86.3  | 87.1  | 87.7  | 89.6  | 92.3  | 95.0  | 100.3 | 102.7 | 101.6 | 96.3  | 137.6 |
| 1250  | 91.0  | 92.3  | 89.8  | 89.0  | 89.2  | 89.6  | 91.5  | 93.1  | 95.3  | 100.4 | 101.5 | 98.7  | 94.7  | 137.3 |
| 1600  | 96.8  | 97.2  | 96.1  | 93.7  | 92.5  | 91.6  | 92.9  | 94.2  | 96.6  | 99.9  | 100.8 | 96.2  | 93.0  | 138.3 |
| 2000  | 97.8  | 97.7  | 98.8  | 98.2  | 95.8  | 93.7  | 92.9  | 94.2  | 96.3  | 99.9  | 99.9  | 94.5  | 91.7  | 139.1 |
| 2500  | 98.8  | 97.0  | 98.1  | 97.3  | 98.0  | 97.3  | 95.3  | 95.4  | 97.7  | 101.0 | 98.3  | 93.4  | 90.1  | 139.7 |
| 3150  | 95.6  | 96.4  | 97.0  | 96.5  | 96.6  | 97.1  | 98.0  | 96.7  | 97.8  | 100.9 | 98.4  | 92.1  | 89.8  | 139.5 |
| 4000  | 96.6  | 96.7  | 97.4  | 96.5  | 96.0  | 96.2  | 96.6  | 98.4  | 98.8  | 101.5 | 98.2  | 92.0  | 89.8  | 139.8 |
| 5000  | 98.6  | 99.6  | 99.7  | 98.1  | 97.1  | 96.8  | 96.7  | 98.0  | 100.5 | 102.1 | 100.0 | 93.3  | 90.8  | 141.2 |
| 6300  | 100.0 | 101.8 | 101.9 | 101.0 | 100.1 | 98.3  | 98.1  | 98.7  | 100.7 | 103.1 | 100.7 | 94.9  | 91.9  | 143.0 |
| 8000  | 99.4  | 102.2 | 103.0 | 102.5 | 101.7 | 101.0 | 99.2  | 98.8  | 100.2 | 102.8 | 101.3 | 95.3  | 92.2  | 144.1 |
| 10000 | 99.2  | 102.6 | 103.6 | 104.2 | 104.4 | 104.6 | 102.9 | 101.3 | 101.2 | 103.3 | 101.3 | 97.3  | 92.3  | 146.4 |
| 12500 | 97.6  | 100.2 | 103.0 | 103.5 | 103.3 | 105.1 | 105.1 | 103.8 | 102.4 | 101.5 | 99.8  | 96.1  | 91.8  | 147.2 |
| 16000 | 95.6  | 99.3  | 100.5 | 101.8 | 102.7 | 103.2 | 104.0 | 103.8 | 102.6 | 100.0 | 97.9  | 94.7  | 90.3  | 147.5 |
| 20000 | 93.9  | 96.6  | 98.5  | 100.0 | 101.3 | 102.3 | 101.9 | 101.5 | 101.1 | 98.7  | 97.1  | 92.8  | 88.9  | 147.6 |
| 25000 | 90.7  | 94.7  | 96.8  | 98.4  | 99.8  | 100.9 | 101.5 | 100.3 | 100.0 | 98.5  | 95.1  | 91.6  | 86.1  | 148.7 |
| 31500 | 85.0  | 90.0  | 91.6  | 93.2  | 95.0  | 96.3  | 96.3  | 96.2  | 96.3  | 93.9  | 90.5  | 86.7  | 80.4  | 147.2 |
| 40000 | 82.0  | 87.2  | 89.4  | 90.5  | 92.5  | 93.8  | 94.4  | 93.6  | 94.0  | 91.1  | 88.1  | 83.6  | 77.7  | 148.8 |
| 50000 | 78.7  | 84.0  | 86.6  | 87.0  | 89.9  | 91.4  | 91.1  | 90.2  | 91.0  | 88.8  | 84.2  | 80.8  | 74.2  | 150.2 |
| 63000 | 74.8  | 80.9  | 84.4  | 83.6  | 86.4  | 88.3  | 87.7  | 88.1  | 88.1  | 86.2  | 81.6  | 76.2  | 68.6  | 152.5 |
| 80000 | 67.7  | 77.7  | 80.8  | 78.8  | 82.4  | 84.5  | 83.9  | 83.4  | 83.7  | 81.5  | 75.3  | 69.4  | 60.4  | 155.1 |

DASPL 108.9 110.9 111.7 111.8 111.9 112.3 112.3 111.9 112.3 114.1 115.0 116.6 117.5 160.9  
PNL 120.7 122.2 122.3 121.7 121.2 120.7 121.5 121.8 123.2 126.0 125.7 124.5 124.1  
PNLT 120.7 122.2 122.3 122.3 121.2 121.3 122.4 121.8 123.2 126.0 125.7 124.5 124.1  
DBA 108.0 109.3 109.7 109.1 108.6 108.2 107.7 108.0 109.6 112.8 112.9 112.7 111.2

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICLE = ADH232 TEST DATE = 08-17-82 LOCAT = CAT ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 50.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1642.7 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1891.9 FPS AE18 = 20.4 SQ IN  
RUNPT = 82F-400-1420 TAPE = X1420C TEST PT NO = 1420 NC = AE058 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1420 X1420F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.7  | 89.3  | 87.2  | 87.0  | 85.8  | 86.8  | 87.6  | 87.5  | 89.7  | 93.1  | 98.0  | 103.6 | 107.1 | 137.9 |
| 315   | 87.7  | 89.3  | 87.2  | 87.0  | 87.7  | 87.1  | 90.0  | 88.2  | 89.8  | 94.3  | 99.5  | 104.7 | 107.7 | 138.8 |
| 400   | 89.5  | 88.9  | 87.3  | 88.5  | 86.9  | 85.5  | 94.6  | 87.8  | 90.3  | 95.9  | 101.0 | 105.4 | 107.4 | 139.3 |
| 500   | 87.1  | 88.4  | 87.9  | 86.5  | 86.3  | 86.9  | 88.2  | 88.4  | 90.4  | 97.0  | 100.6 | 105.7 | 106.3 | 138.9 |
| 630   | 88.1  | 88.5  | 87.9  | 87.5  | 87.6  | 87.4  | 87.2  | 88.5  | 92.1  | 97.9  | 101.2 | 104.3 | 105.2 | 138.4 |
| 800   | 87.8  | 88.9  | 89.0  | 88.0  | 88.4  | 88.0  | 88.1  | 89.8  | 93.3  | 98.2  | 100.9 | 102.9 | 104.6 | 138.0 |
| 1000  | 89.4  | 89.9  | 90.1  | 89.1  | 88.8  | 88.4  | 88.7  | 90.0  | 93.9  | 98.5  | 100.0 | 100.2 | 103.2 | 137.1 |
| 1250  | 91.1  | 90.0  | 89.4  | 89.0  | 91.0  | 90.4  | 90.7  | 91.0  | 95.6  | 98.4  | 99.6  | 98.1  | 101.9 | 136.9 |
| 1600  | 97.7  | 97.8  | 94.0  | 91.8  | 94.5  | 92.6  | 92.6  | 92.7  | 97.0  | 99.9  | 100.1 | 97.6  | 101.8 | 138.7 |
| 2000  | 103.9 | 103.1 | 100.7 | 96.9  | 98.0  | 95.0  | 93.7  | 94.2  | 99.2  | 102.4 | 100.2 | 98.5  | 102.4 | 141.9 |
| 2500  | 104.1 | 103.0 | 103.0 | 101.3 | 100.3 | 98.9  | 96.4  | 95.8  | 100.0 | 103.0 | 101.1 | 98.0  | 102.9 | 143.2 |
| 3150  | 101.6 | 102.4 | 101.8 | 100.4 | 99.5  | 99.2  | 99.6  | 97.7  | 101.1 | 103.7 | 101.1 | 98.2  | 103.2 | 143.1 |
| 4000  | 101.0 | 101.5 | 101.4 | 100.1 | 99.1  | 98.7  | 98.6  | 99.6  | 102.8 | 104.2 | 102.7 | 99.4  | 104.1 | 143.5 |
| 5000  | 101.4 | 101.2 | 101.4 | 100.1 | 100.6 | 99.8  | 99.0  | 99.3  | 103.3 | 105.5 | 103.7 | 101.3 | 105.5 | 144.4 |
| 6300  | 104.1 | 104.5 | 104.0 | 101.9 | 103.5 | 101.3 | 100.4 | 100.2 | 103.4 | 105.8 | 104.9 | 102.0 | 105.9 | 146.0 |
| 8000  | 104.9 | 106.3 | 105.9 | 104.6 | 105.5 | 104.0 | 101.6 | 100.5 | 104.8 | 106.8 | 105.2 | 104.1 | 105.9 | 147.9 |
| 10000 | 104.9 | 107.5 | 107.8 | 106.5 | 108.4 | 107.6 | 105.2 | 103.1 | 103.9 | 102.7 | 101.3 | 100.6 | 103.2 | 149.5 |
| 12500 | 106.0 | 108.7 | 108.9 | 108.5 | 107.4 | 108.1 | 106.6 | 103.9 | 105.9 | 103.3 | 101.9 | 101.7 | 104.1 | 151.2 |
| 16000 | 103.9 | 105.8 | 107.7 | 107.2 | 106.7 | 106.2 | 105.8 | 104.6 | 104.9 | 102.5 | 101.4 | 100.2 | 103.1 | 151.3 |
| 20000 | 101.6 | 104.5 | 104.8 | 105.1 | 105.4 | 105.3 | 103.7 | 102.4 | 105.4 | 104.1 | 101.7 | 101.8 | 103.6 | 151.8 |
| 25000 | 99.3  | 101.2 | 102.2 | 102.7 | 104.4 | 103.9 | 103.7 | 101.9 | 102.0 | 99.6  | 97.0  | 96.8  | 98.3  | 152.0 |
| 31500 | 98.1  | 100.8 | 101.4 | 101.5 | 99.6  | 99.3  | 98.5  | 97.5  | 100.4 | 97.6  | 95.5  | 94.6  | 96.4  | 152.4 |
| 40000 | 91.5  | 95.3  | 95.4  | 95.4  | 97.1  | 96.8  | 96.5  | 94.9  | 97.6  | 95.3  | 91.6  | 91.7  | 92.8  | 152.7 |
| 50000 | 88.1  | 92.0  | 92.8  | 92.3  | 94.5  | 94.4  | 93.2  | 91.4  | 95.1  | 92.8  | 88.5  | 86.2  | 85.6  | 154.1 |
| 63000 | 83.9  | 87.9  | 89.0  | 87.9  | 91.0  | 91.3  | 89.7  | 88.9  | 92.4  | 89.9  | 84.2  | 81.5  | 79.4  | 156.0 |
| 80000 | 78.5  | 83.3  | 85.4  | 83.0  | 87.0  | 87.5  | 85.8  | 84.4  | 82.6  | 80.1  | 74.4  | 71.6  | 69.6  | 157.7 |

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82F-400-1420  
 GASPL 114.6 116.0 116.1 115.3 115.6 115.1 113.9 112.5 114.9 115.6 114.8 115.3 117.9 164.1  
 PNL 124.9 124.9 124.3 122.7 123.4 122.0 121.7 121.4 124.7 127.0 126.2 125.1 128.7  
 PNLT 124.9 126.3 124.3 122.7 123.4 122.0 122.6 121.4 124.7 127.0 126.2 125.1 128.7  
 DBA 200.1 204.7 206.5 204.5 208.2 208.6 207.0 205.7 205.9 203.5 198.0 195.4 193.8

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

VEHICL = ADH232 TEST DATE = 08-17-82 LOCAT = C41 ANECH CH CONFIG = 4 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 83.00 PAMB HG = 29.50 RELHUM = 52.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1642.7 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1891.9 FPS AE18 = 20.4 SQ IN

RUNPT = 82F-400-1420 TAPE = X1420F TEST PT NO = 1420 NC = AE058 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1420 X14201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 67.7 | 68.6 | 68.9 | 70.0 | 68.8 | 67.6 | 76.5 | 69.3 | 71.1 | 75.6 | 79.2 | 81.4 | 80.0 | 156.9 |
| 63    | 65.2 | 68.1 | 68.3 | 68.0 | 68.2 | 68.9 | 70.1 | 69.9 | 71.1 | 76.7 | 78.7 | 81.7 | 78.8 | 156.5 |
| 80    | 66.2 | 68.1 | 68.6 | 68.9 | 69.4 | 69.3 | 69.0 | 69.9 | 72.8 | 77.5 | 79.2 | 80.1 | 77.6 | 156.0 |
| 100   | 65.8 | 68.4 | 69.6 | 69.4 | 70.2 | 69.9 | 69.9 | 71.2 | 74.0 | 77.8 | 78.9 | 78.7 | 76.9 | 155.6 |
| 125   | 67.3 | 69.4 | 70.6 | 70.4 | 70.5 | 70.2 | 70.4 | 71.3 | 74.4 | 78.0 | 77.9 | 75.8 | 75.3 | 154.7 |
| 160   | 68.8 | 69.3 | 69.8 | 70.1 | 72.6 | 72.1 | 72.3 | 72.2 | 76.0 | 77.7 | 77.3 | 73.5 | 73.6 | 154.5 |
| 200   | 75.1 | 76.9 | 74.2 | 72.8 | 75.9 | 74.2 | 74.0 | 73.7 | 77.2 | 79.0 | 77.5 | 72.6 | 73.0 | 156.3 |
| 250   | 81.0 | 81.9 | 80.7 | 77.7 | 79.2 | 76.3 | 74.9 | 75.0 | 79.2 | 81.2 | 77.3 | 73.1 | 73.0 | 159.5 |
| 315   | 80.8 | 81.4 | 82.7 | 81.8 | 81.3 | 80.1 | 77.3 | 76.3 | 79.7 | 81.5 | 77.8 | 72.1 | 72.7 | 160.8 |
| 400   | 77.8 | 80.5 | 81.2 | 80.6 | 80.1 | 80.0 | 80.3 | 77.9 | 80.5 | 81.7 | 77.3 | 71.6 | 72.0 | 160.7 |
| 500   | 76.8 | 79.1 | 80.4 | 80.0 | 79.5 | 79.3 | 79.0 | 79.5 | 81.8 | 81.9 | 78.4 | 72.1 | 71.9 | 161.1 |
| 630   | 76.6 | 78.5 | 80.1 | 79.7 | 80.7 | 80.1 | 79.1 | 78.9 | 82.0 | 82.8 | 79.0 | 73.4 | 72.2 | 162.0 |
| 800   | 78.8 | 81.4 | 82.4 | 81.2 | 83.4 | 81.3 | 80.3 | 79.5 | 81.8 | 82.7 | 79.6 | 73.4 | 71.5 | 163.6 |
| 1000  | 79.2 | 82.9 | 84.1 | 83.7 | 85.2 | 83.9 | 81.4 | 79.7 | 83.0 | 83.4 | 79.5 | 74.8 | 70.4 | 165.5 |
| 1250  | 78.7 | 83.7 | 85.7 | 85.5 | 88.0 | 87.4 | 84.8 | 82.1 | 81.8 | 78.9 | 75.0 | 70.4 | 68.2 | 167.1 |
| 1600  | 78.9 | 84.4 | 86.4 | 87.1 | 86.7 | 87.6 | 85.9 | 82.5 | 83.4 | 79.0 | 74.8 | 70.2 | 64.7 | 168.8 |
| 2000  | 75.8 | 80.9 | 84.8 | 85.6 | 85.9 | 85.5 | 84.9 | 83.0 | 82.0 | 77.6 | 73.4 | 67.1 | 60.8 | 168.9 |
| 2500  | 71.7 | 78.4 | 81.0 | 82.9 | 84.0 | 84.2 | 82.3 | 80.1 | 81.6 | 78.0 | 71.9 | 65.9 | 56.3 | 169.4 |
| 3150  | 66.1 | 72.6 | 76.5 | 79.0 | 81.6 | 81.4 | 80.9 | 78.1 | 76.3 | 71.0 | 63.8 | 55.9 | 42.6 | 169.6 |
| 4000  | 58.6 | 67.5 | 72.0 | 74.4 | 73.8 | 74.0 | 72.7 | 70.5 | 71.0 | 64.3 | 56.1 | 44.8 | 26.2 | 170.0 |
| 5000  | 42.3 | 54.4 | 59.7 | 62.9 | 66.3 | 66.6 | 65.8 | 62.4 | 61.9 | 54.5 | 42.4 | 28.2 | 0.8  | 170.3 |
| 6300  | 21.1 | 36.9 | 45.0 | 49.0 | 53.6 | 54.3 | 52.3 | 48.1 | 47.3 | 37.7 | 21.5 |      |      | 171.7 |
| 8000  |      | 8.0  | 19.9 | 25.3 | 32.0 | 33.4 | 30.7 | 26.4 | 23.3 | 10.0 |      |      |      | 173.6 |
| 10000 |      |      |      |      | 1.1  | 3.3  |      |      |      |      |      |      |      | 175.3 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |       |       |       |       |       |       |       |       |       |      |      |      |       |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| GASPL | 89.2 | 92.3  | 93.9  | 94.0  | 94.9  | 94.5  | 93.1  | 91.1  | 92.7  | 92.7  | 90.4 | 88.5 | 86.8 | 181.6 |
| PNL   | 97.2 | 101.8 | 104.0 | 104.6 | 105.3 | 105.2 | 104.0 | 102.2 | 103.2 | 101.1 | 96.8 | 91.9 | 88.6 |       |
| PNLT  | 97.7 | 102.6 | 104.6 | 105.1 | 105.8 | 105.7 | 104.0 | 102.2 | 103.7 | 102.4 | 96.8 | 91.9 | 89.7 |       |
| DBA   | 87.2 | 91.4  | 93.5  | 94.0  | 94.9  | 94.7  | 93.1  | 90.8  | 91.8  | 90.2  | 86.3 | 81.0 | 78.4 |       |

MODEL AREA = 157.1 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.583 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH DUAL CONV/DFSC-4/NAS3-23166

|                 |                      |                          |                      |                   |                   |
|-----------------|----------------------|--------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH232 | TEST DATE = 08-17-82 | LOCAT = C41 ANECH CH     | CONFIG = 4           | MODEL = AX        | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE   | TAMB F = 83.00       | PAMB HG = 29.50   | RELHUM = 52.6 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 2400.0 FT | EXT CONFIG = SL      | MIKE HT =         | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =                | RPM V8 = 1642.7 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =               | RPM V18 = 1891.9 FPS | AE18 = 20.4 SQ IN |                   |

RUNPT = 82F-400-1420 TAPE = X14201 TEST PT NO = 1420 NC = AE058 CORR FAN SPEED = RPM

#### 4.5 Acoustic Data of DFSC-5



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0501 X0501C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3 | 82.6  | 79.8  | 80.1  | 80.5  | 79.3  | 79.7  | 80.4  | 84.6  | 85.2  | 88.0  | 93.0  | 92.9  | 127.2 |
| 63    | 87.4 | 89.2  | 84.7  | 85.3  | 90.1  | 87.2  | 87.9  | 83.3  | 92.2  | 93.3  | 91.4  | 97.9  | 99.0  | 133.3 |
| 80    | 87.2 | 92.5  | 89.2  | 89.0  | 89.1  | 90.7  | 91.9  | 91.0  | 92.2  | 91.1  | 93.4  | 97.1  | 98.5  | 134.2 |
| 100   | 87.5 | 94.0  | 90.0  | 91.1  | 92.4  | 92.3  | 93.2  | 94.6  | 93.3  | 95.1  | 97.5  | 101.2 | 103.6 | 137.3 |
| 125   | 83.9 | 87.7  | 90.5  | 90.5  | 92.6  | 93.2  | 93.8  | 94.2  | 93.7  | 96.8  | 101.7 | 106.1 | 107.0 | 140.0 |
| 160   | 84.7 | 83.0  | 88.2  | 87.0  | 88.6  | 88.5  | 95.4  | 90.5  | 92.2  | 97.0  | 102.7 | 106.4 | 109.3 | 140.7 |
| 200   | 85.8 | 85.6  | 87.1  | 87.7  | 89.5  | 91.4  | 93.5  | 93.7  | 97.1  | 98.4  | 103.8 | 108.8 | 110.9 | 142.5 |
| 250   | 85.5 | 89.8  | 89.8  | 89.6  | 89.7  | 91.1  | 94.0  | 96.4  | 97.6  | 103.6 | 110.0 | 113.2 | 113.4 | 146.4 |
| 315   | 85.4 | 89.4  | 88.7  | 89.5  | 92.8  | 93.9  | 97.1  | 96.7  | 100.2 | 106.0 | 111.4 | 115.1 | 114.7 | 148.0 |
| 400   | 86.0 | 89.5  | 90.5  | 90.3  | 92.4  | 92.5  | 102.4 | 97.6  | 101.0 | 108.6 | 113.5 | 116.4 | 114.6 | 149.4 |
| 500   | 87.5 | 89.5  | 91.1  | 91.6  | 92.7  | 94.3  | 96.7  | 98.6  | 102.3 | 109.6 | 115.0 | 117.2 | 115.3 | 150.3 |
| 630   | 88.4 | 90.5  | 92.2  | 92.8  | 94.1  | 95.2  | 96.4  | 99.5  | 102.5 | 110.8 | 115.9 | 118.4 | 116.0 | 151.3 |
| 800   | 91.4 | 92.5  | 93.8  | 93.8  | 95.4  | 96.5  | 97.9  | 101.0 | 104.5 | 110.8 | 116.7 | 118.4 | 116.8 | 151.8 |
| 1000  | 96.7 | 96.0  | 96.7  | 95.5  | 96.6  | 97.0  | 98.9  | 101.5 | 105.2 | 110.1 | 115.7 | 119.1 | 116.8 | 151.8 |
| 1250  | 96.8 | 100.1 | 100.1 | 100.0 | 99.7  | 100.3 | 101.0 | 102.9 | 105.8 | 110.2 | 115.0 | 118.7 | 116.5 | 151.6 |
| 1600  | 94.0 | 95.7  | 97.4  | 97.0  | 99.0  | 99.3  | 101.4 | 103.7 | 106.6 | 109.2 | 114.1 | 117.5 | 115.7 | 150.7 |
| 2000  | 96.8 | 96.2  | 97.3  | 96.7  | 97.8  | 98.9  | 100.9 | 103.5 | 106.3 | 108.6 | 112.9 | 116.0 | 112.7 | 149.4 |
| 2500  | 97.5 | 97.8  | 98.1  | 97.8  | 98.5  | 99.3  | 100.8 | 104.4 | 106.7 | 109.5 | 111.8 | 114.4 | 111.1 | 148.7 |
| 3150  | 97.1 | 97.7  | 97.7  | 97.2  | 97.6  | 99.1  | 101.5 | 104.0 | 106.3 | 108.1 | 111.1 | 112.1 | 109.3 | 147.6 |
| 4000  | 93.8 | 95.2  | 96.8  | 97.3  | 97.9  | 98.7  | 100.3 | 103.9 | 106.2 | 107.2 | 109.7 | 110.5 | 107.7 | 146.6 |
| 5000  | 94.0 | 95.5  | 96.4  | 96.1  | 97.6  | 99.3  | 101.2 | 103.5 | 106.2 | 106.3 | 108.4 | 109.0 | 105.7 | 145.9 |
| 6300  | 94.2 | 95.7  | 96.1  | 95.7  | 97.5  | 98.5  | 101.0 | 103.7 | 105.2 | 105.5 | 106.4 | 107.6 | 104.6 | 145.2 |
| 8000  | 94.0 | 96.9  | 97.9  | 96.4  | 96.3  | 98.1  | 99.8  | 103.2 | 104.4 | 104.7 | 105.2 | 105.5 | 103.1 | 144.7 |
| 10000 | 94.8 | 100.2 | 101.4 | 99.3  | 98.5  | 99.2  | 100.2 | 103.2 | 104.0 | 105.4 | 104.6 | 105.9 | 102.6 | 145.8 |
| 12500 | 95.1 | 97.4  | 101.5 | 102.2 | 100.6 | 100.1 | 99.1  | 101.3 | 102.1 | 103.7 | 103.2 | 103.8 | 101.4 | 145.8 |
| 16000 | 92.0 | 95.6  | 97.3  | 98.9  | 100.6 | 99.3  | 99.1  | 99.7  | 100.9 | 100.7 | 102.0 | 102.1 | 99.6  | 145.4 |
| 20000 | 90.1 | 92.7  | 95.6  | 96.4  | 97.7  | 99.0  | 98.1  | 97.2  | 98.2  | 97.7  | 99.7  | 100.0 | 98.4  | 145.1 |
| 25000 | 86.7 | 91.0  | 93.6  | 95.0  | 96.7  | 97.5  | 97.7  | 95.9  | 97.6  | 96.4  | 96.9  | 98.0  | 94.8  | 146.0 |
| 31500 | 80.6 | 86.2  | 88.2  | 90.2  | 91.0  | 92.6  | 91.9  | 91.4  | 92.7  | 93.1  | 93.2  | 93.5  | 89.0  | 144.4 |
| 40000 | 77.7 | 83.4  | 86.4  | 87.3  | 89.4  | 90.0  | 89.6  | 89.2  | 90.7  | 91.0  | 91.4  | 90.3  | 85.7  | 146.1 |
| 50000 | 73.9 | 80.4  | 83.5  | 83.5  | 86.0  | 87.3  | 85.7  | 85.5  | 88.1  | 89.9  | 89.9  | 89.0  | 82.9  | 147.9 |
| 63000 | 70.5 | 77.5  | 80.7  | 79.8  | 82.2  | 84.2  | 82.1  | 83.3  | 85.7  | 88.5  | 89.7  | 87.4  | 79.6  | 151.2 |
| 80000 | 64.6 | 74.3  | 77.4  | 75.3  | 77.9  | 80.5  | 77.4  | 79.1  | 83.3  | 86.4  | 88.2  | 83.8  | 72.8  | 155.2 |

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GASPL 107.3 109.3 110.4 110.3 111.0 111.7 113.3 115.2 117.6 121.0 125.4 128.0 126.2 163.4  
PNL 120.1 121.4 121.9 121.5 122.4 123.4 125.6 127.9 130.3 133.0 136.3 138.6 136.5  
PNLT 120.1 122.8 122.9 122.7 122.4 123.4 126.6 127.9 130.3 133.0 136.3 138.6 136.5  
DBA 106.8 108.2 109.0 108.5 109.3 110.2 112.1 114.7 117.3 120.3 124.6 127.3 125.0

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH185     | TEST DATE = 08-06-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 77.00       | PAMB HG = 29.55   | RELHUM = 78.8 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1672.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2272.8 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0501 | TAPE = X0501C        | TEST PT NO = 0501      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0501 X0501F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    | 82.3  | 82.6  | 79.8  | 80.1  | 80.5  | 79.3  | 79.7  | 80.4  | 84.6  | 85.2  | 88.0  | 93.0  | 92.9  | 127.2 |
| 63    | 87.4  | 89.2  | 84.7  | 85.3  | 90.1  | 87.2  | 87.9  | 83.3  | 92.2  | 93.3  | 81.4  | 97.9  | 99.0  | 133.3 |
| 80    | 87.2  | 92.5  | 89.2  | 89.0  | 89.1  | 90.7  | 91.9  | 91.0  | 92.2  | 91.1  | 93.4  | 97.1  | 98.5  | 134.2 |
| 100   | 87.5  | 94.0  | 90.0  | 91.1  | 92.4  | 92.3  | 93.2  | 94.6  | 93.3  | 95.1  | 97.5  | 101.2 | 103.6 | 137.3 |
| 125   | 83.9  | 87.7  | 90.5  | 90.7  | 92.6  | 93.2  | 93.8  | 94.2  | 93.7  | 96.8  | 101.7 | 106.1 | 107.0 | 140.0 |
| 160   | 84.7  | 83.0  | 88.2  | 87.0  | 88.6  | 88.5  | 95.4  | 90.5  | 92.2  | 97.0  | 102.7 | 106.4 | 109.3 | 140.7 |
| 200   | 85.8  | 85.6  | 87.1  | 87.7  | 89.5  | 91.4  | 93.5  | 93.7  | 97.1  | 98.4  | 103.8 | 108.8 | 110.9 | 142.5 |
| 250   | 85.5  | 89.8  | 89.8  | 89.6  | 89.7  | 91.1  | 94.0  | 96.4  | 97.6  | 103.6 | 110.0 | 113.2 | 113.4 | 146.4 |
| 315   | 85.4  | 89.4  | 88.7  | 89.5  | 92.8  | 93.9  | 97.1  | 96.7  | 100.2 | 106.0 | 111.4 | 115.1 | 114.7 | 148.0 |
| 400   | 86.0  | 89.5  | 90.5  | 90.3  | 92.4  | 92.5  | 102.4 | 97.6  | 101.0 | 108.6 | 113.5 | 116.4 | 114.6 | 149.4 |
| 500   | 87.5  | 89.5  | 91.1  | 91.6  | 92.7  | 94.3  | 96.7  | 98.6  | 102.3 | 109.6 | 115.0 | 117.2 | 115.3 | 150.3 |
| 630   | 88.4  | 90.5  | 92.2  | 92.8  | 94.1  | 95.2  | 96.4  | 99.5  | 102.5 | 110.8 | 115.9 | 118.4 | 116.0 | 151.3 |
| 800   | 91.4  | 92.5  | 93.8  | 93.8  | 95.4  | 96.5  | 97.9  | 101.0 | 104.5 | 110.8 | 116.7 | 118.4 | 116.8 | 151.8 |
| 1000  | 96.7  | 96.0  | 96.7  | 95.5  | 96.6  | 97.0  | 98.9  | 101.5 | 105.2 | 110.1 | 115.7 | 119.1 | 116.8 | 151.8 |
| 1250  | 96.8  | 100.1 | 100.1 | 100.0 | 99.7  | 100.3 | 101.0 | 102.9 | 105.8 | 110.2 | 115.0 | 118.7 | 116.5 | 151.6 |
| 1500  | 94.0  | 95.7  | 97.4  | 97.0  | 99.0  | 99.3  | 101.4 | 103.7 | 106.6 | 109.2 | 114.1 | 117.5 | 115.7 | 150.7 |
| 2000  | 96.8  | 96.2  | 97.3  | 96.7  | 97.8  | 98.9  | 100.9 | 103.5 | 106.3 | 108.6 | 112.9 | 116.0 | 112.7 | 149.4 |
| 2500  | 97.5  | 97.8  | 98.1  | 97.8  | 98.5  | 99.3  | 100.8 | 104.4 | 106.7 | 109.5 | 111.8 | 114.4 | 111.1 | 148.7 |
| 3150  | 97.1  | 97.7  | 97.7  | 97.2  | 97.6  | 99.1  | 101.5 | 104.0 | 106.3 | 108.1 | 111.1 | 112.1 | 109.3 | 147.6 |
| 4000  | 93.8  | 95.2  | 96.8  | 97.3  | 97.9  | 98.7  | 100.3 | 103.9 | 106.2 | 107.2 | 109.7 | 110.5 | 107.7 | 146.6 |
| 5000  | 94.0  | 95.5  | 96.4  | 96.1  | 97.6  | 99.3  | 101.2 | 103.5 | 106.2 | 106.3 | 108.4 | 109.0 | 105.7 | 145.9 |
| 6300  | 94.2  | 95.7  | 96.1  | 95.7  | 97.5  | 98.5  | 101.0 | 103.7 | 105.2 | 105.5 | 106.4 | 107.6 | 104.6 | 145.2 |
| 8000  | 94.0  | 96.9  | 97.9  | 96.4  | 96.3  | 98.1  | 99.8  | 103.2 | 104.4 | 104.7 | 105.2 | 105.5 | 103.1 | 144.7 |
| 10000 | 94.8  | 100.2 | 101.4 | 99.3  | 98.5  | 99.2  | 100.2 | 103.2 | 104.0 | 105.4 | 104.6 | 105.9 | 102.6 | 145.8 |
| 12500 | 95.1  | 97.4  | 101.5 | 102.2 | 100.6 | 100.1 | 99.1  | 101.3 | 102.1 | 103.7 | 103.2 | 103.8 | 101.4 | 145.8 |
| 16000 | 92.0  | 95.6  | 97.3  | 98.9  | 100.5 | 99.3  | 99.1  | 99.7  | 100.9 | 100.7 | 102.0 | 102.1 | 99.6  | 145.4 |
| 20000 | 90.1  | 92.7  | 95.6  | 96.4  | 97.7  | 99.0  | 98.1  | 97.2  | 98.2  | 97.7  | 99.7  | 100.0 | 98.4  | 145.1 |
| 25000 | 86.7  | 91.0  | 93.6  | 95.0  | 96.7  | 97.5  | 97.7  | 95.9  | 97.6  | 96.4  | 96.9  | 98.0  | 94.8  | 146.0 |
| 31500 | 80.6  | 86.2  | 88.2  | 90.2  | 91.0  | 92.6  | 91.9  | 91.4  | 92.7  | 93.1  | 93.2  | 93.5  | 89.0  | 144.4 |
| 40000 | 77.7  | 83.4  | 86.4  | 87.3  | 89.4  | 90.0  | 89.6  | 89.2  | 90.7  | 91.0  | 91.4  | 90.3  | 85.7  | 146.1 |
| 50000 | 73.9  | 80.4  | 83.5  | 83.5  | 86.0  | 87.3  | 85.7  | 85.5  | 88.1  | 89.9  | 89.9  | 89.0  | 82.9  | 147.9 |
| 63000 | 70.5  | 77.5  | 80.7  | 79.8  | 82.2  | 84.2  | 82.1  | 83.3  | 85.7  | 88.5  | 89.7  | 87.4  | 79.6  | 151.2 |
| 80000 | 64.6  | 74.3  | 77.4  | 75.3  | 77.9  | 80.5  | 77.4  | 79.1  | 83.3  | 86.4  | 88.2  | 83.8  | 72.8  | 155.2 |
| OASPL | 107.3 | 109.3 | 110.4 | 110.3 | 111.0 | 111.7 | 113.3 | 115.2 | 117.6 | 121.0 | 125.4 | 128.0 | 126.2 | 163.4 |
| PNL   | 120.1 | 121.4 | 121.9 | 121.5 | 122.4 | 123.4 | 125.6 | 127.9 | 130.3 | 133.0 | 136.3 | 138.6 | 136.5 |       |
| PNLT  | 120.1 | 122.8 | 122.9 | 122.7 | 122.4 | 123.4 | 126.6 | 127.9 | 130.3 | 133.0 | 136.3 | 138.6 | 136.5 |       |
| DBA   | 186.4 | 195.3 | 198.4 | 196.7 | 199.2 | 201.6 | 198.8 | 200.3 | 204.1 | 207.1 | 208.8 | 204.8 | 194.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH185 TEST DATE = 08-06-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.55 RELHUM = 78.8 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1672.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2272.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0501 TAPE = X0501F TEST PT NO = 0501 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0501 X05011

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| FREQ  |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50    | 64.1 | 69.2 | 71.3 | 71.8  | 74.3  | 74.6  | 84.3  | 79.1  | 81.8  | 88.3  | 91.7  | 92.4  | 87.2 | 167.0 |
| 63    | 65.6 | 69.2 | 71.8 | 73.1  | 74.6  | 76.3  | 78.6  | 80.1  | 83.1  | 89.3  | 93.1  | 93.1  | 87.9 | 167.9 |
| 80    | 66.5 | 70.1 | 72.9 | 74.2  | 76.0  | 77.2  | 78.2  | 80.9  | 83.2  | 90.4  | 94.0  | 94.2  | 88.5 | 168.9 |
| 100   | 69.5 | 72.1 | 74.4 | 75.2  | 77.2  | 78.4  | 79.7  | 82.4  | 85.2  | 90.4  | 94.7  | 94.1  | 89.1 | 169.4 |
| 125   | 74.6 | 75.5 | 77.3 | 76.8  | 78.3  | 78.9  | 80.6  | 82.8  | 85.8  | 89.5  | 93.6  | 94.7  | 88.9 | 169.4 |
| 160   | 74.5 | 79.4 | 80.5 | 81.1  | 81.3  | 82.1  | 82.6  | 84.0  | 86.3  | 89.5  | 92.7  | 94.1  | 88.2 | 169.2 |
| 200   | 71.5 | 74.8 | 77.6 | 78.0  | 80.4  | 80.9  | 82.9  | 84.8  | 86.9  | 88.3  | 91.5  | 92.5  | 87.0 | 168.3 |
| 250   | 73.9 | 75.0 | 77.4 | 77.5  | 79.1  | 80.3  | 82.2  | 84.3  | 86.4  | 87.5  | 90.0  | 90.6  | 83.3 | 167.0 |
| 315   | 74.2 | 76.3 | 77.8 | 78.3  | 79.4  | 80.5  | 81.7  | 84.9  | 86.5  | 88.0  | 88.5  | 88.4  | 80.9 | 166.3 |
| 400   | 73.3 | 75.8 | 77.1 | 77.4  | 78.2  | 80.0  | 82.2  | 84.2  | 85.7  | 86.2  | 87.4  | 85.5  | 78.1 | 165.2 |
| 500   | 69.5 | 72.9 | 75.9 | 77.2  | 78.3  | 79.2  | 80.7  | 83.8  | 85.3  | 84.9  | 85.4  | 83.2  | 75.5 | 164.2 |
| 630   | 69.3 | 72.8 | 75.1 | 75.7  | 77.7  | 79.6  | 81.3  | 83.1  | 85.0  | 83.7  | 83.7  | 81.1  | 72.5 | 163.6 |
| 800   | 68.9 | 72.7 | 74.5 | 75.0  | 77.4  | 78.5  | 80.9  | 83.0  | 83.6  | 82.5  | 81.1  | 79.0  | 70.2 | 162.8 |
| 1000  | 68.3 | 73.5 | 76.1 | 75.6  | 76.1  | 78.1  | 79.6  | 82.3  | 82.6  | 81.3  | 79.5  | 76.2  | 67.6 | 162.3 |
| 1250  | 68.6 | 76.5 | 79.4 | 78.3  | 78.1  | 79.0  | 79.8  | 82.2  | 82.0  | 81.7  | 78.4  | 75.8  | 65.7 | 163.4 |
| 1600  | 68.0 | 73.1 | 79.0 | 80.9  | 79.9  | 79.6  | 78.4  | 79.9  | 79.6  | 79.4  | 76.2  | 72.4  | 62.0 | 163.4 |
| 2000  | 64.0 | 70.7 | 74.4 | 77.4  | 79.7  | 78.7  | 78.2  | 78.1  | 78.1  | 75.8  | 73.9  | 69.0  | 57.3 | 163.0 |
| 2500  | 60.3 | 66.6 | 71.8 | 74.2  | 76.3  | 77.9  | 76.7  | 74.9  | 74.5  | 71.6  | 69.8  | 64.1  | 51.1 | 162.7 |
| 3150  | 53.5 | 62.5 | 67.9 | 71.2  | 73.9  | 75.1  | 74.9  | 72.1  | 71.9  | 67.8  | 63.7  | 57.1  | 39.1 | 163.6 |
| 4000  | 41.2 | 52.9 | 58.8 | 63.2  | 65.3  | 67.3  | 66.1  | 64.4  | 63.3  | 59.8  | 53.8  | 43.7  | 18.9 | 162.0 |
| 5000  | 28.5 | 42.5 | 50.7 | 54.8  | 58.6  | 59.8  | 58.8  | 56.7  | 55.0  | 50.2  | 42.2  | 26.8  |      | 163.7 |
| 6300  | 7.0  | 25.3 | 35.7 | 40.3  | 45.2  | 47.2  | 44.9  | 42.2  | 40.4  | 34.8  | 23.0  | 1.3   |      | 165.6 |
| 8000  |      |      | 11.7 | 17.3  | 23.3  | 26.3  | 23.1  | 20.8  | 16.6  | 8.6   |       |       |      | 168.8 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |      | 172.8 |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 83.3 | 86.7 | 89.1 | 89.8  | 91.0  | 91.8  | 93.5  | 95.1  | 96.9  | 99.5  | 102.5 | 102.8 | 97.1 | 180.7 |
| PNL   | 88.6 | 93.4 | 97.6 | 99.1  | 100.4 | 101.1 | 101.3 | 101.8 | 102.6 | 103.4 | 104.3 | 103.8 |      | 97.0  |
| PNLT  | 88.6 | 94.5 | 98.1 | 100.1 | 100.4 | 101.1 | 101.3 | 101.8 | 103.1 | 104.0 | 104.3 | 103.8 |      | 97.0  |
| DPA   | 78.1 | 82.9 | 86.2 | 87.2  | 88.1  | 88.8  | 89.4  | 91.1  | 91.8  | 91.6  | 91.7  | 90.8  |      | 83.7  |

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH185 TEST DATE = 08-06-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 77.00 PAMB HG = 29.55 RELHUM = 78.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1672.9 FPS AE8 = 4.0 SQ IN  
FNIRMB = LBS XNLR = RPM XNHR = RPM V18 = 2272.8 FPS AE18 = 20.2 SQ IN

RUMPT = 82F-ZER-0501 TAPE = X05011 TEST PT NO = 0501 NC = AE056 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0502 X0502C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.3 | 83.0  | 78.9 | 78.7 | 79.7 | 79.8 | 79.3 | 80.9  | 81.6  | 85.1  | 89.2  | 90.4  | 97.0  | 128.0 |
| 63    |      |       | 84.3 | 84.6 |      | 85.8 | 85.3 | 84.7  | 86.3  | 89.0  | 91.3  | 90.4  | 97.2  | 129.5 |
| 80    | 86.2 | 90.8  | 87.3 | 88.0 | 87.9 | 90.2 | 89.8 | 89.1  | 90.0  | 90.6  | 91.3  | 93.4  | 99.4  | 132.8 |
| 100   | 85.3 | 91.4  | 87.4 | 87.3 | 89.5 | 90.4 | 90.3 | 91.7  | 90.2  | 93.4  | 94.1  | 97.9  | 102.7 | 135.0 |
| 125   | 83.5 | 86.8  | 88.9 | 88.9 | 90.5 | 91.7 | 91.0 | 91.7  | 90.1  | 94.9  | 88.9  | 102.6 | 105.4 | 137.5 |
| 160   | 81.7 | 79.1  | 85.6 | 83.5 | 85.6 | 86.6 | 91.6 | 87.6  | 88.4  | 95.5  | 99.9  | 102.8 | 106.7 | 137.8 |
| 200   | 82.7 | 81.8  | 82.8 | 82.3 | 84.8 | 86.9 | 90.2 | 89.8  | 92.6  | 96.6  | 99.8  | 104.8 | 108.2 | 139.1 |
| 250   | 80.0 | 83.4  | 83.9 | 84.2 | 84.8 | 87.5 | 92.3 | 91.6  | 92.6  | 100.9 | 105.0 | 108.2 | 109.1 | 141.8 |
| 315   |      | 83.1  | 83.4 | 84.0 | 86.3 | 88.8 | 91.9 | 92.0  | 94.7  | 103.5 | 106.9 | 109.8 | 110.0 | 143.3 |
| 400   | 81.5 | 84.2  | 84.9 | 84.2 | 86.5 | 88.5 | 99.5 | 92.0  | 95.8  | 105.8 | 109.0 | 111.4 | 108.3 | 144.7 |
| 500   | 82.4 | 84.0  | 85.7 | 86.0 | 87.6 | 89.5 | 91.4 | 92.8  | 96.8  | 107.1 | 110.3 | 111.4 | 105.6 | 145.0 |
| 630   | 82.1 | 85.2  | 86.9 | 86.9 | 88.6 | 90.7 | 91.3 | 94.5  | 97.2  | 108.3 | 110.2 | 109.9 | 102.2 | 144.6 |
| 800   | 83.6 | 85.4  | 87.7 | 87.7 | 89.3 | 91.7 | 92.6 | 96.3  | 99.5  | 108.6 | 110.7 | 108.1 | 98.8  | 144.6 |
| 1000  | 86.7 | 86.7  | 88.5 | 88.0 | 90.1 | 92.2 | 93.6 | 96.8  | 100.0 | 108.1 | 108.7 | 106.4 | 95.5  | 143.4 |
| 1250  | 86.2 | 90.0  | 90.3 | 89.2 | 91.2 | 93.3 | 95.2 | 97.6  | 100.1 | 107.9 | 107.3 | 102.2 | 94.2  | 142.6 |
| 1600  | 86.8 | 88.4  | 89.8 | 89.7 | 92.2 | 94.1 | 95.9 | 98.2  | 101.6 | 106.7 | 106.0 | 98.7  | 92.4  | 141.8 |
| 2000  | 88.0 | 88.9  | 90.3 | 89.9 | 91.3 | 93.9 | 96.1 | 99.0  | 101.6 | 106.6 | 103.6 | 96.7  | 91.6  | 141.2 |
| 2500  | 90.2 | 91.0  | 91.3 | 90.8 | 93.2 | 94.8 | 96.0 | 99.6  | 102.5 | 108.0 | 103.0 | 95.6  | 90.6  | 142.1 |
| 3150  | 88.6 | 91.4  | 92.4 | 91.4 | 93.0 | 95.6 | 97.2 | 99.5  | 101.0 | 106.1 | 102.9 | 95.0  | 89.8  | 141.2 |
| 4000  | 87.5 | 89.2  | 91.1 | 91.5 | 93.9 | 95.4 | 96.5 | 99.8  | 101.5 | 104.9 | 100.4 | 94.2  | 88.7  | 140.5 |
| 5000  | 89.3 | 90.5  | 91.1 | 90.6 | 92.8 | 95.5 | 96.7 | 99.3  | 101.8 | 104.6 | 99.7  | 94.0  | 88.2  | 140.5 |
| 6300  | 91.0 | 92.0  | 92.1 | 90.9 | 94.0 | 95.2 | 97.0 | 99.9  | 101.2 | 104.3 | 99.4  | 93.4  | 88.4  | 140.7 |
| 8000  | 93.3 | 95.7  | 94.7 | 92.2 | 93.6 | 96.2 | 97.4 | 100.2 | 101.4 | 104.0 | 99.0  | 93.3  | 88.4  | 141.3 |
| 10000 | 97.1 | 100.0 | 98.8 | 96.2 | 96.3 | 98.1 | 98.3 | 100.3 | 102.4 | 106.0 | 100.5 | 95.2  | 90.2  | 143.7 |
| 12500 | 94.5 | 97.8  | 99.9 | 97.9 | 97.7 | 98.0 | 96.8 | 99.2  | 101.0 | 103.7 | 99.7  | 95.0  | 90.3  | 143.5 |
| 16000 | 91.0 | 94.7  | 96.6 | 95.7 | 98.3 | 98.3 | 95.8 | 97.9  | 99.2  | 101.5 | 98.0  | 94.3  | 88.9  | 143.4 |
| 20000 | 89.3 | 92.4  | 93.8 | 93.6 | 96.1 | 97.4 | 95.0 | 95.6  | 96.4  | 98.7  | 95.9  | 91.9  | 87.8  | 142.9 |
| 25000 | 86.0 | 89.9  | 91.5 | 92.1 | 94.0 | 96.1 | 94.7 | 94.2  | 96.0  | 96.6  | 93.5  | 90.3  | 84.5  | 143.8 |
| 31500 | 79.6 | 84.5  | 86.1 | 86.8 | 89.3 | 90.9 | 89.6 | 89.7  | 90.6  | 91.8  | 88.0  | 84.7  | 78.5  | 141.8 |
| 40000 | 76.1 | 81.7  | 83.9 | 83.1 | 86.1 | 87.9 | 87.0 | 87.4  | 88.5  | 89.2  | 84.7  | 81.5  | 75.1  | 143.1 |
| 50000 | 72.6 | 77.4  | 80.0 | 79.5 | 83.5 | 85.2 | 83.7 | 83.5  | 84.9  | 86.1  | 81.5  | 77.4  | 71.0  | 144.2 |
| 63000 | 68.0 | 73.1  | 76.3 | 75.2 | 79.1 | 81.5 | 79.2 | 80.4  | 81.4  | 82.8  | 78.1  | 73.5  | 65.9  | 145.8 |
| 80000 | 61.5 | 67.7  | 71.2 | 68.7 | 73.6 | 76.7 | 73.3 | 73.6  | 76.5  | 77.7  | 72.3  | 66.2  | 57.0  | 147.2 |

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OASPL 103.3 106.0 106.6 105.6 107.0 108.6 109.5 111.3 113.4 119.1 119.1 118.9 117.1 157.7  
PNL 113.6 116.0 116.6 115.8 117.7 119.7 121.5 123.7 125.7 131.2 129.1 126.7 123.6  
PNLT 120.3 116.0 116.6 116.4 117.7 120.3 122.8 123.7 125.7 131.2 129.1 126.7 123.6  
DBA 101.1 103.1 103.3 102.2 104.1 106.1 107.8 110.3 112.6 118.3 117.6 115.6 110.6

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                  |                   |
|----------------------|----------------------|------------------------|----------------------|------------------|-------------------|
| VEHICLE = ADH195     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX       | FLTVEL = 400. FPS |
| 1 ALPHA = SB59       | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00       | PAMB HG = 29.50  | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =        | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1640.2 FPS  | AE8 =            | 4.0 SQ IN         |
| FNIRMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2271.5 FPS | AE18 =           | 20.2 SQ IN        |
| RUNPT = 82F-400-0502 | TAPE = X0502C        | TEST PT NO = 0502      | NC = AE056           | CORR FAN SPEED = | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0502 X0502F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.6  | 89.6  | 88.7  | 87.4  | 86.4  | 87.5  | 90.4  | 87.9  | 91.2  | 99.1  | 102.0 | 105.4 | 107.4 | 139.6 |
| 315   | 87.6  | 89.6  | 88.7  | 87.4  | 88.1  | 89.0  | 90.5  | 89.2  | 92.5  | 101.8 | 104.5 | 107.7 | 107.2 | 141.2 |
| 400   | 88.4  | 89.5  | 88.3  | 87.4  | 88.4  | 88.7  | 98.3  | 89.3  | 94.9  | 104.6 | 107.5 | 109.9 | 107.4 | 143.4 |
| 500   | 89.2  | 90.5  | 89.9  | 87.6  | 89.5  | 89.8  | 90.7  | 91.0  | 95.0  | 106.8 | 108.9 | 110.6 | 107.5 | 144.4 |
| 630   | 90.1  | 90.4  | 90.7  | 89.5  | 90.5  | 91.1  | 90.7  | 92.9  | 98.3  | 107.2 | 109.8 | 110.0 | 106.7 | 144.6 |
| 800   | 89.8  | 91.6  | 91.9  | 90.5  | 91.4  | 92.2  | 91.9  | 94.4  | 99.2  | 107.2 | 108.6 | 109.7 | 106.1 | 144.2 |
| 1000  | 91.3  | 91.9  | 92.8  | 91.3  | 92.2  | 92.9  | 93.0  | 95.1  | 99.1  | 106.8 | 106.9 | 105.3 | 104.7 | 142.6 |
| 1250  | 94.3  | 93.2  | 93.6  | 91.6  | 93.5  | 94.1  | 94.6  | 95.8  | 100.7 | 105.5 | 105.5 | 101.7 | 102.9 | 141.7 |
| 1600  | 93.8  | 96.5  | 95.4  | 92.9  | 94.7  | 95.1  | 95.5  | 96.5  | 100.9 | 105.7 | 103.3 | 99.8  | 102.3 | 141.4 |
| 2000  | 94.4  | 94.9  | 95.1  | 93.6  | 94.0  | 95.2  | 96.0  | 97.5  | 102.0 | 107.1 | 102.5 | 98.2  | 100.2 | 141.8 |
| 2500  | 95.6  | 95.5  | 95.7  | 94.0  | 96.1  | 96.4  | 96.1  | 98.4  | 101.1 | 105.8 | 103.1 | 98.5  | 100.6 | 141.7 |
| 3150  | 97.7  | 97.5  | 96.7  | 94.9  | 96.3  | 97.6  | 97.8  | 98.7  | 102.2 | 105.1 | 101.0 | 97.8  | 99.3  | 141.8 |
| 4000  | 96.2  | 98.1  | 98.0  | 95.8  | 97.6  | 98.0  | 97.7  | 99.7  | 102.5 | 104.9 | 100.3 | 97.6  | 98.8  | 142.0 |
| 5000  | 95.1  | 95.9  | 96.8  | 96.2  | 96.9  | 98.5  | 98.3  | 99.3  | 102.3 | 104.9 | 100.4 | 97.6  | 99.9  | 142.0 |
| 6300  | 96.7  | 97.2  | 97.0  | 95.4  | 98.0  | 98.2  | 98.8  | 100.2 | 102.9 | 105.0 | 100.5 | 98.0  | 100.7 | 142.6 |
| 8000  | 98.3  | 98.6  | 97.8  | 95.6  | 97.4  | 99.2  | 99.3  | 100.7 | 103.9 | 107.1 | 102.0 | 100.0 | 102.6 | 144.3 |
| 10000 | 98.6  | 100.7 | 99.3  | 96.1  | 99.8  | 101.1 | 100.2 | 100.7 | 103.5 | 105.8 | 102.5 | 101.3 | 104.0 | 145.1 |
| 12500 | 101.7 | 104.2 | 102.5 | 99.3  | 101.6 | 101.0 | 98.9  | 100.1 | 102.7 | 104.8 | 102.0 | 101.7 | 103.6 | 146.5 |
| 16000 | 99.8  | 102.7 | 104.2 | 101.3 | 102.3 | 101.3 | 98.1  | 99.2  | 101.1 | 103.2 | 100.8 | 99.9  | 102.8 | 147.4 |
| 20000 | 98.9  | 99.9  | 100.9 | 100.0 | 100.2 | 100.4 | 97.4  | 97.4  | 101.2 | 101.7 | 99.4  | 99.5  | 101.0 | 147.5 |
| 25000 | 94.6  | 97.0  | 97.5  | 96.3  | 98.6  | 99.1  | 97.2  | 96.0  | 96.3  | 97.5  | 94.4  | 94.6  | 95.8  | 146.9 |
| 31500 | 93.3  | 96.0  | 96.1  | 95.2  | 93.9  | 93.9  | 92.0  | 91.3  | 94.9  | 95.5  | 91.7  | 92.1  | 93.5  | 147.3 |
| 40000 | 86.1  | 89.8  | 89.9  | 89.0  | 90.7  | 90.9  | 89.4  | 88.9  | 91.4  | 92.4  | 88.5  | 88.0  | 89.5  | 147.0 |
| 50000 | 82.2  | 86.5  | 87.3  | 84.9  | 88.1  | 88.2  | 85.9  | 84.7  | 87.8  | 88.7  | 84.4  | 82.7  | 82.2  | 148.0 |
| 63000 | 77.7  | 81.3  | 82.4  | 80.4  | 83.7  | 84.5  | 81.0  | 81.0  | 84.5  | 85.2  | 80.1  | 76.9  | 74.6  | 149.1 |
| 80000 | 71.7  | 75.5  | 77.3  | 74.6  | 78.2  | 79.7  | 75.2  | 74.2  | 74.7  | 75.4  | 70.3  | 67.1  | 64.8  | 149.4 |
| CASPL | 109.3 | 111.0 | 110.9 | 108.9 | 110.4 | 110.7 | 110.1 | 110.9 | 114.1 | 118.5 | 117.9 | 118.2 | 117.3 | 159.4 |
| PNL   | 119.8 | 120.5 | 120.3 | 118.4 | 120.1 | 120.7 | 121.0 | 122.3 | 125.5 | 129.6 | 127.3 | 125.8 | 126.0 |       |
| PNLT  | 119.8 | 120.5 | 120.3 | 118.4 | 120.1 | 120.7 | 122.3 | 122.3 | 125.5 | 129.6 | 127.3 | 125.8 | 126.0 |       |
| DBA   | 193.6 | 197.4 | 198.9 | 196.4 | 199.9 | 201.2 | 197.1 | 196.3 | 198.1 | 198.9 | 193.9 | 191.1 | 189.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |       |         |   |       |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|-------|---------|---|-------|--------|---|----------|
| VEHICL   | = | ADH195 | TEST DATE | = | 08-10-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 5     | MODEL   | = | AX    | FLTVEL | = | 400. FPS |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 74.00 | PAMB HG | = | 29.50 | RELHUM | = | 69.9 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 40.0 FT      | EXT CONFIG | = | ARC   | MIKE HT | = |       | NBFR   | = |          |

|        |   |     |      |   |     |      |   |     |     |   |            |      |   |            |
|--------|---|-----|------|---|-----|------|---|-----|-----|---|------------|------|---|------------|
| FNIN1  | = | LBS | XNL  | = | RPM | XNH  | = | RPM | V8  | = | 1640.2 FPS | AE8  | = | 4.0 SQ IN  |
| FNRAMB | = | LBS | XNLR | = | RPM | XNHR | = | RPM | V18 | = | 2271.5 FPS | AE18 | = | 20.2 SQ IN |

RUNPT = 82F-400-0502 TAPE = X0502F TEST PT NO = 0502 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0502 X05021

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.  | 80.   | 90.   | 100. | 110. | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|-------|------|-------|-------|------|------|-------|-------|------|------|------|-------|
| 50    | 66.6 | 69.2 | 69.1  | 68.9 | 70.3  | 70.7  | 80.2 | 70.8 | 75.7  | 84.3  | 85.7 | 85.9 | 80.0 | 161.0 |
| 63    | 67.3 | 70.2 | 70.7  | 69.1 | 71.4  | 71.8  | 72.6 | 72.5 | 76.8  | 86.5  | 87.1 | 86.5 | 80.1 | 162.0 |
| 80    | 68.2 | 70.0 | 71.5  | 70.9 | 72.4  | 73.1  | 72.5 | 74.4 | 79.0  | 86.8  | 87.9 | 85.9 | 79.2 | 162.2 |
| 100   | 67.8 | 71.2 | 72.6  | 71.8 | 73.2  | 74.2  | 73.7 | 75.8 | 79.9  | 86.8  | 86.6 | 85.4 | 78.4 | 161.8 |
| 125   | 69.2 | 71.4 | 73.4  | 72.6 | 74.0  | 74.7  | 74.7 | 76.4 | 79.7  | 86.3  | 84.8 | 80.9 | 76.8 | 160.2 |
| 160   | 72.0 | 72.5 | 74.0  | 72.8 | 75.1  | 75.8  | 76.2 | 77.0 | 81.1  | 84.8  | 83.2 | 77.0 | 74.6 | 159.3 |
| 200   | 71.3 | 75.6 | 75.7  | 73.9 | 76.1  | 76.7  | 77.0 | 77.6 | 81.2  | 84.8  | 80.8 | 74.8 | 73.5 | 159.0 |
| 250   | 71.6 | 73.8 | 75.1  | 74.4 | 75.2  | 76.6  | 77.2 | 78.3 | 82.0  | 85.9  | 79.7 | 72.8 | 70.8 | 159.4 |
| 315   | 72.4 | 74.0 | 75.4  | 74.5 | 77.1  | 77.5  | 77.1 | 78.9 | 80.8  | 84.3  | 79.8 | 72.6 | 70.4 | 159.3 |
| 400   | 73.9 | 75.6 | 76.1  | 75.1 | 77.0  | 78.5  | 78.5 | 78.9 | 81.6  | 83.2  | 77.2 | 71.2 | 68.1 | 159.4 |
| 500   | 71.9 | 75.8 | 77.0  | 75.7 | 78.0  | 78.5  | 78.2 | 79.7 | 81.6  | 82.6  | 76.0 | 70.4 | 66.6 | 159.6 |
| 630   | 70.3 | 73.2 | 75.5  | 75.8 | 77.0  | 78.8  | 78.4 | 79.0 | 81.0  | 82.2  | 75.6 | 69.7 | 66.7 | 159.6 |
| 800   | 71.5 | 74.2 | 75.4  | 74.7 | 77.9  | 78.3  | 78.7 | 79.6 | 81.3  | 81.9  | 75.2 | 69.4 | 66.3 | 160.2 |
| 1000  | 72.6 | 75.2 | 76.0  | 74.8 | 77.1  | 79.1  | 79.1 | 79.9 | 82.1  | 83.7  | 76.3 | 70.8 | 67.1 | 161.9 |
| 1250  | 72.4 | 77.0 | 77.2  | 75.1 | 79.4  | 80.9  | 79.8 | 79.7 | 81.4  | 82.1  | 76.3 | 71.2 | 67.0 | 162.7 |
| 1600  | 74.6 | 79.9 | 80.0  | 78.0 | 81.0  | 80.5  | 78.3 | 78.8 | 80.2  | 80.5  | 74.9 | 70.3 | 64.3 | 164.1 |
| 2000  | 71.7 | 77.9 | 81.3  | 79.8 | 81.3  | 80.7  | 77.3 | 77.7 | 78.2  | 78.3  | 72.8 | 66.8 | 60.5 | 165.0 |
| 2500  | 67.1 | 73.7 | 77.2  | 77.8 | 78.8  | 79.3  | 76.0 | 75.2 | 77.4  | 75.6  | 69.5 | 63.6 | 53.7 | 165.1 |
| 3150  | 61.4 | 68.4 | 71.8  | 72.5 | 75.8  | 76.6  | 74.4 | 72.2 | 70.7  | 68.9  | 61.2 | 53.7 | 40.2 | 164.6 |
| 4000  | 53.9 | 62.7 | 66.7  | 68.1 | 68.1  | 68.6  | 66.3 | 64.2 | 65.5  | 62.2  | 52.3 | 42.3 | 23.3 | 164.9 |
| 5000  | 36.9 | 48.9 | 54.2  | 56.5 | 59.9  | 30.7  | 58.6 | 56.4 | 55.8  | 51.5  | 39.3 | 24.5 |      | 164.7 |
| 6300  | 15.2 | 31.5 | 39.6  | 41.6 | 47.2  | 48.2  | 45.1 | 41.5 | 40.1  | 33.6  | 17.4 |      |      | 165.6 |
| 8000  |      | 1.4  | 13.4  | 17.9 | 24.7  | 25.7  | 22.1 | 18.5 | 15.4  | 5.3   |      |      |      | 166.7 |
| 10000 |      |      |       |      |       |       |      |      |       |       |      |      |      | 167.0 |
| 12500 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 16000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 20000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 25000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 31500 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 40000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 50000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 63000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| 80000 |      |      |       |      |       |       |      |      |       |       |      |      |      |       |
| OASPL | 83.9 | 87.4 | 88.8  | 87.8 | 90.0  | 90.6  | 90.2 | 90.4 | 93.0  | 96.7  | 94.9 | 92.8 | 87.1 | 176.9 |
| PNL   | 92.6 | 97.3 | 99.9  | 98.9 | 100.9 | 101.2 | 99.4 | 99.3 | 101.2 | 102.3 | 97.5 | 93.3 | 87.4 |       |
| PNLT  | 93.6 | 98.0 | 100.5 | 98.9 | 101.4 | 101.2 | 99.9 | 99.3 | 101.7 | 102.9 | 97.5 | 93.3 | 87.4 |       |
| DBA   | 81.6 | 86.2 | 87.8  | 86.8 | 89.1  | 89.5  | 88.0 | 88.3 | 90.1  | 91.1  | 85.2 | 79.8 | 75.7 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.595      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH195      TEST DATE = 08-10-82      LOCAT = C41 ANECH CH      CONFIG = 5      MODEL = AX      FLTVEL = 400. FPS  
IAPLHA = SB59      IEGA = NO      PWL AREA = FULL SPHERE      TAMB F = 74.00      PAMB HG = 29.50      RELHUM = 69.9 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1640.2 FPS      AE8 = 4.0 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2271.5 FPS      AE18 = 20.2 SQ IN

RUNPT = 82F-400-0502 TAPE = X05021      TEST PT NO = 0502      NC = AE056      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0505 X0505C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.8  | 83.3  | 81.1  | 80.9  | 81.2  | 81.3  | 79.7  | 83.6  | 85.6  | 84.9  | 92.5  | 93.5  | 93.9  | 128.7 |
| 63    | 89.4  | 89.2  | 85.5  | 87.5  | 89.9  | 89.2  | 86.4  | 90.3  | 91.5  | 92.8  | 98.7  | 98.4  | 98.8  | 134.7 |
| 80    | 88.7  | 93.5  | 89.7  | 89.8  | 90.4  | 93.0  | 92.6  | 92.5  | 93.0  | 94.6  | 94.9  | 97.9  | 100.0 | 135.5 |
| 100   | 89.0  | 95.5  | 91.3  | 91.6  | 93.7  | 94.0  | 94.4  | 96.3  | 93.5  | 98.1  | 98.7  | 101.9 | 104.8 | 138.7 |
| 125   | 85.7  | 89.2  | 92.5  | 92.2  | 94.6  | 95.2  | 95.1  | 95.7  | 94.5  | 99.5  | 104.2 | 107.1 | 108.5 | 141.6 |
| 160   | 86.4  | 85.2  | 89.7  | 88.0  | 89.6  | 90.5  | 96.9  | 92.5  | 93.5  | 100.8 | 104.7 | 107.6 | 110.5 | 142.3 |
| 200   | 87.6  | 87.4  | 88.4  | 87.9  | 90.8  | 93.4  | 95.3  | 94.9  | 98.1  | 101.7 | 105.6 | 109.3 | 112.4 | 143.8 |
| 250   | 87.3  | 90.6  | 90.8  | 90.4  | 90.7  | 93.1  | 95.7  | 97.9  | 98.8  | 106.9 | 110.8 | 113.7 | 114.1 | 147.3 |
| 315   | 86.9  | 90.2  | 90.2  | 90.0  | 93.1  | 95.4  | 98.8  | 97.5  | 100.4 | 109.5 | 112.1 | 115.3 | 115.7 | 149.0 |
| 400   | 87.7  | 91.0  | 92.0  | 90.6  | 93.7  | 94.8  | 106.4 | 98.3  | 101.5 | 112.1 | 114.7 | 116.4 | 115.6 | 150.6 |
| 500   | 88.7  | 90.8  | 91.8  | 92.1  | 93.4  | 95.8  | 97.9  | 99.1  | 103.1 | 113.4 | 116.5 | 117.4 | 115.8 | 151.5 |
| 630   | 89.7  | 92.2  | 93.7  | 93.3  | 94.6  | 97.0  | 97.4  | 100.5 | 103.5 | 114.8 | 117.2 | 117.9 | 117.0 | 152.4 |
| 800   | 92.7  | 94.0  | 95.0  | 94.5  | 96.4  | 97.7  | 99.4  | 102.3 | 105.2 | 114.6 | 117.9 | 118.1 | 116.8 | 152.7 |
| 1000  | 98.4  | 98.7  | 98.7  | 96.8  | 97.4  | 99.2  | 99.9  | 102.5 | 106.2 | 113.8 | 117.4 | 118.6 | 117.0 | 152.7 |
| 1250  | 97.5  | 101.8 | 101.8 | 101.0 | 101.2 | 102.6 | 101.9 | 103.6 | 106.6 | 113.6 | 116.5 | 118.4 | 116.7 | 152.5 |
| 1600  | 96.3  | 96.9  | 98.6  | 98.0  | 99.7  | 101.6 | 102.4 | 104.7 | 107.6 | 112.9 | 116.5 | 117.5 | 116.0 | 152.0 |
| 2000  | 100.0 | 99.4  | 99.3  | 97.7  | 98.8  | 100.4 | 101.9 | 104.5 | 106.6 | 112.6 | 115.4 | 116.0 | 113.2 | 150.8 |
| 2500  | 101.3 | 101.5 | 101.6 | 99.3  | 100.2 | 101.3 | 102.2 | 105.6 | 107.5 | 114.0 | 115.0 | 114.8 | 111.3 | 150.9 |
| 3150  | 98.9  | 100.4 | 101.2 | 99.7  | 100.0 | 101.9 | 102.7 | 105.0 | 106.8 | 112.4 | 114.4 | 112.0 | 109.3 | 149.7 |
| 4000  | 95.8  | 97.7  | 99.3  | 98.7  | 100.4 | 101.9 | 102.0 | 105.3 | 107.0 | 110.9 | 111.9 | 110.2 | 107.7 | 148.3 |
| 5000  | 95.5  | 97.0  | 98.4  | 97.3  | 99.1  | 101.8 | 102.7 | 105.2 | 107.0 | 110.3 | 111.2 | 109.0 | 106.2 | 147.9 |
| 6300  | 93.9  | 97.0  | 97.8  | 96.9  | 98.7  | 100.4 | 102.0 | 104.9 | 106.1 | 109.0 | 109.1 | 107.6 | 104.6 | 146.9 |
| 8000  | 92.0  | 96.3  | 97.7  | 96.7  | 97.6  | 99.9  | 101.1 | 104.4 | 104.9 | 108.4 | 107.4 | 105.7 | 103.1 | 146.2 |
| 10000 | 93.0  | 97.6  | 99.4  | 98.5  | 98.5  | 100.7 | 101.5 | 103.6 | 104.8 | 108.3 | 106.1 | 105.8 | 102.9 | 146.7 |
| 12500 | 93.3  | 96.1  | 99.2  | 99.7  | 100.0 | 101.0 | 99.8  | 102.0 | 103.3 | 105.9 | 104.2 | 103.8 | 101.8 | 146.2 |
| 16000 | 90.5  | 95.1  | 96.5  | 97.1  | 99.0  | 100.0 | 99.0  | 99.9  | 100.6 | 103.4 | 102.7 | 101.8 | 99.9  | 145.6 |
| 20000 | 88.3  | 92.1  | 94.0  | 94.9  | 96.7  | 98.2  | 97.8  | 97.6  | 98.4  | 100.1 | 100.9 | 99.2  | 97.8  | 145.1 |
| 25000 | 84.9  | 89.7  | 92.2  | 93.2  | 95.1  | 96.9  | 96.6  | 95.8  | 96.7  | 98.8  | 98.0  | 97.2  | 93.5  | 145.6 |
| 31500 | 79.3  | 84.5  | 87.1  | 88.3  | 89.9  | 92.3  | 91.2  | 90.8  | 92.3  | 94.7  | 93.5  | 92.6  | 87.4  | 144.1 |
| 40000 | 75.8  | 81.6  | 84.1  | 84.4  | 87.4  | 89.1  | 88.8  | 88.5  | 90.2  | 93.3  | 91.4  | 89.9  | 84.3  | 145.7 |
| 50000 | 72.6  | 78.5  | 81.1  | 81.2  | 84.7  | 86.7  | 85.2  | 85.4  | 88.5  | 92.0  | 91.1  | 87.2  | 81.1  | 148.1 |
| 63000 | 68.8  | 74.9  | 77.7  | 77.0  | 81.0  | 83.4  | 81.1  | 82.8  | 85.9  | 90.8  | 90.4  | 85.9  | 77.6  | 151.4 |
| 80000 | 63.6  | 71.9  | 74.2  | 72.4  | 76.6  | 79.5  | 77.3  | 78.0  | 83.1  | 89.1  | 88.0  | 82.0  | 73.3  | 155.5 |
| CASPL | 108.7 | 110.6 | 111.4 | 110.5 | 111.7 | 113.4 | 114.7 | 116.3 | 118.3 | 124.7 | 127.2 | 128.0 | 126.8 | 164.3 |
| PNL   | 122.2 | 123.5 | 124.2 | 123.0 | 124.1 | 125.7 | 127.0 | 129.1 | 131.0 | 136.9 | 138.7 | 138.8 | 136.9 |       |
| PNLT  | 123.3 | 124.8 | 125.2 | 124.2 | 124.1 | 125.7 | 128.3 | 129.1 | 131.0 | 136.9 | 138.7 | 138.8 | 136.9 |       |
| DBA   | 108.9 | 110.2 | 110.9 | 109.6 | 110.7 | 112.4 | 113.5 | 115.9 | 118.0 | 124.2 | 126.5 | 127.1 | 125.4 |       |

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NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH187     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | LEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1639.3 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2366.9 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0505 | TAPE = X0505C        | TEST PT NO = 0505      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0505 X0505F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.8  | 83.3  | 81.1  | 80.9  | 81.2  | 81.3  | 79.7  | 83.6  | 85.6  | 84.9  | 92.5  | 93.5  | 93.9  | 128.7 |
| 63    | 89.4  | 89.2  | 85.5  | 87.5  | 89.9  | 89.2  | 88.4  | 90.3  | 91.5  | 92.8  | 98.7  | 98.4  | 98.8  | 134.7 |
| 80    | 88.7  | 93.5  | 89.7  | 89.8  | 90.4  | 93.0  | 92.6  | 92.5  | 93.0  | 94.6  | 94.9  | 97.9  | 100.0 | 135.5 |
| 100   | 89.0  | 95.5  | 91.3  | 91.6  | 93.7  | 94.0  | 94.4  | 96.3  | 93.5  | 98.1  | 98.7  | 101.9 | 104.8 | 138.7 |
| 125   | 85.7  | 89.2  | 92.5  | 92.2  | 94.6  | 95.2  | 95.1  | 95.7  | 94.5  | 99.5  | 104.2 | 107.1 | 108.5 | 141.6 |
| 160   | 86.4  | 85.2  | 89.7  | 88.0  | 89.6  | 90.5  | 96.9  | 92.5  | 93.5  | 100.8 | 104.7 | 107.6 | 110.5 | 142.3 |
| 200   | 87.6  | 87.4  | 88.4  | 87.9  | 90.8  | 93.4  | 95.3  | 94.9  | 98.1  | 101.7 | 105.6 | 109.3 | 112.4 | 143.8 |
| 250   | 87.3  | 90.6  | 90.8  | 90.4  | 90.7  | 93.1  | 95.7  | 97.9  | 98.8  | 106.9 | 110.8 | 113.7 | 114.1 | 147.3 |
| 315   | 86.9  | 90.2  | 90.2  | 90.0  | 93.1  | 95.4  | 98.8  | 97.5  | 100.4 | 109.5 | 112.1 | 115.3 | 115.7 | 149.0 |
| 400   | 87.7  | 91.0  | 92.0  | 90.6  | 93.7  | 94.8  | 106.4 | 98.3  | 101.5 | 112.1 | 114.7 | 116.4 | 115.6 | 150.6 |
| 500   | 88.7  | 90.8  | 91.8  | 92.1  | 93.4  | 95.8  | 97.9  | 99.1  | 103.1 | 113.4 | 116.5 | 117.4 | 115.8 | 151.5 |
| 630   | 89.7  | 92.2  | 93.7  | 93.3  | 94.6  | 97.0  | 97.4  | 100.5 | 103.5 | 114.8 | 117.2 | 117.9 | 117.0 | 152.4 |
| 800   | 92.7  | 94.0  | 95.0  | 94.5  | 96.4  | 97.7  | 99.4  | 102.3 | 105.2 | 114.6 | 117.9 | 118.1 | 116.8 | 152.7 |
| 1000  | 98.4  | 98.7  | 98.7  | 96.8  | 97.4  | 99.2  | 99.9  | 102.5 | 106.2 | 113.8 | 117.4 | 118.6 | 117.0 | 152.7 |
| 1250  | 97.5  | 101.8 | 101.8 | 101.0 | 101.2 | 102.6 | 101.9 | 103.6 | 106.6 | 113.6 | 116.5 | 118.4 | 116.7 | 152.5 |
| 1600  | 96.3  | 96.9  | 98.6  | 98.0  | 99.7  | 101.6 | 102.9 | 104.7 | 107.6 | 112.9 | 116.5 | 117.5 | 116.0 | 152.0 |
| 2000  | 100.0 | 99.4  | 99.3  | 97.7  | 98.8  | 100.4 | 101.9 | 104.5 | 106.6 | 112.6 | 115.4 | 116.0 | 113.2 | 150.8 |
| 2500  | 101.3 | 101.5 | 101.6 | 99.3  | 100.2 | 101.3 | 102.2 | 105.6 | 107.5 | 114.0 | 115.0 | 114.8 | 111.3 | 150.9 |
| 3150  | 98.9  | 100.4 | 101.2 | 99.7  | 100.0 | 101.9 | 102.7 | 105.0 | 106.8 | 112.4 | 114.4 | 112.0 | 109.3 | 149.7 |
| 4000  | 95.8  | 97.7  | 99.3  | 98.7  | 100.4 | 101.9 | 102.0 | 105.3 | 107.0 | 110.9 | 111.9 | 110.2 | 107.7 | 148.3 |
| 5000  | 95.5  | 97.0  | 98.4  | 97.3  | 99.1  | 101.8 | 102.7 | 105.2 | 107.0 | 110.3 | 111.2 | 109.0 | 106.2 | 147.9 |
| 6300  | 93.9  | 97.0  | 97.8  | 96.9  | 98.7  | 100.4 | 102.0 | 104.9 | 106.1 | 109.0 | 109.1 | 107.6 | 104.6 | 146.9 |
| 8000  | 92.0  | 96.3  | 97.7  | 96.7  | 97.6  | 99.9  | 101.1 | 104.4 | 104.9 | 108.4 | 107.4 | 105.7 | 103.1 | 146.2 |
| 10000 | 93.0  | 97.6  | 99.4  | 98.5  | 98.5  | 100.7 | 101.5 | 103.6 | 104.8 | 108.3 | 106.1 | 105.8 | 102.9 | 146.7 |
| 12500 | 93.3  | 96.1  | 99.2  | 99.7  | 100.0 | 101.0 | 99.8  | 102.0 | 103.3 | 105.9 | 104.2 | 103.8 | 101.8 | 146.2 |
| 16000 | 90.5  | 95.1  | 96.5  | 97.1  | 99.0  | 100.0 | 99.0  | 99.9  | 100.6 | 103.4 | 102.7 | 101.8 | 99.9  | 145.6 |
| 20000 | 88.3  | 92.1  | 94.0  | 94.9  | 96.7  | 98.2  | 97.8  | 97.6  | 98.4  | 100.1 | 100.9 | 99.2  | 97.8  | 145.1 |
| 25000 | 84.9  | 89.7  | 92.2  | 93.2  | 95.1  | 96.9  | 96.6  | 95.8  | 96.7  | 98.8  | 98.0  | 97.2  | 93.5  | 145.6 |
| 31500 | 79.3  | 84.5  | 87.1  | 88.3  | 89.9  | 92.3  | 91.2  | 90.8  | 92.3  | 94.7  | 93.5  | 92.6  | 87.4  | 144.1 |
| 40000 | 75.8  | 81.6  | 84.1  | 84.4  | 87.4  | 89.1  | 88.6  | 88.5  | 90.2  | 93.3  | 91.4  | 89.9  | 84.3  | 145.7 |
| 50000 | 72.6  | 78.5  | 81.1  | 81.2  | 84.7  | 86.7  | 85.2  | 85.4  | 88.5  | 92.0  | 91.1  | 87.2  | 81.1  | 148.1 |
| 63000 | 68.8  | 74.9  | 77.7  | 77.0  | 81.0  | 83.4  | 81.1  | 82.8  | 85.9  | 90.8  | 90.4  | 85.9  | 77.6  | 151.4 |
| 80000 | 63.6  | 71.9  | 74.2  | 72.4  | 76.6  | 79.5  | 77.3  | 78.0  | 83.1  | 89.1  | 88.0  | 82.0  | 73.3  | 155.5 |
| 8ASPL | 108.7 | 110.6 | 111.4 | 110.5 | 111.7 | 113.4 | 114.7 | 116.3 | 118.3 | 124.7 | 127.2 | 128.0 | 126.8 | 164.3 |
| PNL   | 122.2 | 123.5 | 124.2 | 123.0 | 124.1 | 125.7 | 127.0 | 129.1 | 131.0 | 136.9 | 138.7 | 138.8 | 136.9 |       |
| PNLT  | 123.3 | 124.8 | 125.2 | 124.2 | 124.1 | 125.7 | 128.3 | 129.1 | 131.0 | 136.9 | 138.7 | 138.8 | 136.9 |       |
| DBA   | 185.1 | 192.9 | 195.3 | 193.8 | 197.9 | 200.7 | 198.5 | 199.4 | 204.0 | 209.8 | 208.8 | 203.1 | 194.6 |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH187 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1639.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2366.9 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0505 TAPE = X0505F TEST PT NO = 0505 NC = AE056 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0505 X05051

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| FREQ  |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50    | 65.9 | 70.7 | 72.8 | 72.1 | 75.6  | 76.8  | 88.3  | 79.8  | 82.3  | 91.8  | 92.9  | 92.4  | 88.2 | 168.2 |
| 63    | 66.9 | 70.5 | 72.6 | 73.6 | 75.3  | 77.8  | 79.8  | 80.6  | 83.8  | 93.0  | 94.6  | 93.4  | 88.4 | 169.1 |
| 80    | 67.8 | 71.8 | 74.4 | 74.7 | 76.5  | 79.0  | 79.2  | 81.9  | 84.2  | 94.4  | 95.3  | 93.7  | 89.5 | 170.0 |
| 100   | 70.7 | 73.6 | 75.7 | 75.9 | 78.2  | 79.7  | 81.2  | 83.7  | 85.9  | 94.1  | 96.0  | 93.9  | 89.1 | 170.3 |
| 125   | 76.3 | 78.2 | 79.3 | 78.1 | 79.1  | 81.1  | 81.6  | 83.8  | 86.8  | 93.3  | 95.3  | 94.2  | 89.1 | 170.3 |
| 160   | 75.2 | 81.1 | 82.3 | 82.1 | 82.8  | 84.3  | 83.6  | 84.8  | 87.0  | 93.0  | 94.2  | 93.8  | 88.4 | 170.1 |
| 200   | 73.7 | 76.0 | 78.9 | 79.0 | 81.2  | 83.2  | 83.9  | 85.8  | 87.9  | 92.0  | 94.0  | 92.5  | 87.2 | 169.6 |
| 250   | 77.1 | 78.3 | 79.4 | 78.5 | 80.1  | 81.8  | 83.2  | 85.3  | 86.6  | 91.5  | 92.5  | 90.6  | 83.8 | 168.4 |
| 315   | 78.0 | 80.0 | 81.3 | 79.8 | 81.2  | 82.4  | 83.2  | 86.1  | 87.2  | 92.5  | 91.7  | 88.9  | 81.1 | 168.5 |
| 400   | 75.1 | 78.5 | 80.6 | 79.9 | 80.7  | 82.7  | 83.4  | 85.2  | 86.2  | 90.5  | 90.6  | 85.4  | 78.1 | 167.3 |
| 500   | 71.5 | 75.4 | 78.4 | 78.7 | 80.8  | 82.5  | 82.4  | 85.3  | 86.0  | 88.6  | 87.6  | 83.0  | 75.5 | 165.9 |
| 630   | 70.8 | 74.3 | 77.1 | 76.9 | 79.2  | 82.1  | 82.8  | 84.9  | 85.7  | 87.6  | 86.4  | 81.1  | 73.0 | 165.5 |
| 800   | 68.7 | 73.9 | 76.2 | 76.3 | 78.6  | 80.5  | 81.9  | 84.3  | 84.5  | 85.9  | 83.8  | 79.0  | 70.2 | 164.5 |
| 1000  | 66.3 | 73.0 | 75.8 | 75.8 | 77.3  | 79.8  | 80.8  | 83.6  | 83.0  | 85.0  | 81.8  | 76.4  | 67.6 | 163.8 |
| 1250  | 66.8 | 73.9 | 77.4 | 77.6 | 78.1  | 80.5  | 81.1  | 82.7  | 82.7  | 84.6  | 79.9  | 75.7  | 65.9 | 164.3 |
| 1600  | 66.2 | 71.8 | 76.7 | 78.4 | 79.4  | 80.6  | 79.2  | 80.7  | 80.8  | 81.6  | 77.1  | 72.4  | 62.5 | 163.8 |
| 2000  | 62.4 | 70.2 | 73.6 | 75.6 | 78.2  | 79.4  | 78.2  | 78.3  | 77.8  | 78.5  | 74.6  | 68.7  | 57.5 | 163.2 |
| 2500  | 58.5 | 66.0 | 70.3 | 72.6 | 75.3  | 77.1  | 76.4  | 75.4  | 74.7  | 74.0  | 71.0  | 63.3  | 50.6 | 162.7 |
| 3150  | 51.7 | 61.1 | 66.6 | 69.4 | 72.3  | 74.5  | 73.8  | 72.0  | 71.1  | 70.2  | 64.8  | 56.3  | 37.8 | 163.3 |
| 4000  | 39.8 | 51.3 | 57.6 | 61.3 | 64.1  | 66.9  | 65.5  | 63.7  | 62.9  | 61.4  | 54.1  | 42.8  | 17.3 | 161.7 |
| 5000  | 26.6 | 40.8 | 48.5 | 51.9 | 56.7  | 58.9  | 57.9  | 56.0  | 54.5  | 52.4  | 42.2  | 26.4  |      | 163.3 |
| 6300  | 5.7  | 23.4 | 33.4 | 37.9 | 43.9  | 46.7  | 44.3  | 42.1  | 40.8  | 36.9  | 24.1  |       |      | 165.7 |
| 8000  |      |      | 8.6  | 14.5 | 22.0  | 25.6  | 22.1  | 20.3  | 16.8  | 11.0  |       |       |      | 169.0 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 173.1 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| ASPL  | 85.1 | 88.4 | 90.4 | 90.3 | 91.9  | 93.7  | 95.1  | 96.2  | 97.6  | 103.3 | 104.3 | 102.6 | 97.5 | 181.6 |
| PNL   | 89.9 | 94.0 | 97.2 | 98.2 | 100.1 | 101.8 | 101.8 | 102.6 | 103.2 | 107.2 | 106.4 | 103.7 |      | 97.3  |
| PNLT  | 90.5 | 94.6 | 97.7 | 98.8 | 100.6 | 101.8 | 101.8 | 102.6 | 103.7 | 107.8 | 106.4 | 103.7 |      | 97.3  |
| DBA   | 78.8 | 83.2 | 86.1 | 86.6 | 88.3  | 90.1  | 90.3  | 92.1  | 92.5  | 95.2  | 94.1  | 90.7  |      | 84.0  |

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OF POOR QUALITY

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH187 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1639.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2366.9 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0505 TAPE = X05051 TEST PT NO = 0505 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0506 X0506C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.3 | 84.8 | 80.8  | 80.4  | 81.7  | 80.6 | 81.0  | 82.6  | 82.8  | 87.2  | 91.3  | 91.0  | 101.4 | 131.0 |
| 60    | 89.4 | 88.5 | 86.7  | 85.0  | 89.1  | 87.7 | 87.6  | 87.5  | 88.0  | 93.0  | 91.9  | 92.1  | 99.5  | 132.5 |
| 80    | 88.2 | 93.0 | 89.2  | 89.5  | 89.9  | 92.0 | 91.6  | 91.3  | 91.7  | 93.3  | 93.2  | 95.6  | 100.3 | 134.6 |
| 100   | 87.0 | 93.3 | 89.3  | 89.1  | 91.4  | 92.3 | 92.7  | 94.3  | 91.5  | 95.3  | 95.7  | 100.2 | 103.6 | 136.7 |
| 125   | 84.7 | 87.9 | 90.2  | 90.2  | 91.8  | 92.7 | 93.1  | 93.2  | 91.7  | 96.5  | 100.4 | 103.8 | 106.5 | 138.8 |
| 160   | 84.2 | 81.2 | 87.0  | 84.8  | 87.1  | 87.7 | 94.4  | 88.8  | 90.0  | 97.5  | 101.4 | 104.6 | 108.8 | 139.7 |
| 200   | 85.3 | 84.1 | 83.9  | 83.2  | 85.8  | 88.4 | 91.5  | 91.2  | 93.4  | 97.2  | 100.8 | 106.3 | 109.7 | 140.5 |
| 250   | 81.5 | 84.8 | 84.8  | 85.6  | 86.5  | 88.8 | 93.0  | 93.1  | 94.3  | 102.1 | 106.8 | 109.7 | 110.4 | 143.3 |
| 315   | 83.4 | 84.7 | 85.2  | 86.2  | 87.8  | 90.2 | 93.6  | 93.2  | 96.2  | 105.2 | 108.1 | 111.6 | 111.2 | 144.9 |
| 400   | 83.0 | 85.8 | 86.3  | 85.3  | 87.7  | 89.3 | 100.7 | 93.6  | 97.3  | 107.1 | 110.7 | 112.9 | 110.1 | 146.3 |
| 500   | 83.2 | 85.5 | 87.1  | 86.8  | 88.7  | 90.8 | 92.9  | 94.6  | 97.8  | 108.9 | 112.5 | 113.2 | 107.3 | 146.9 |
| 630   | 82.9 | 86.0 | 88.0  | 88.0  | 88.9  | 91.5 | 92.9  | 95.8  | 98.2  | 109.5 | 112.4 | 112.1 | 104.5 | 146.6 |
| 800   | 84.9 | 86.7 | 88.5  | 88.8  | 90.4  | 92.5 | 93.9  | 97.3  | 100.2 | 109.8 | 112.5 | 110.4 | 100.8 | 146.2 |
| 1000  | 87.7 | 88.0 | 89.7  | 89.3  | 90.9  | 92.7 | 94.9  | 98.0  | 101.5 | 109.8 | 110.9 | 108.6 | 98.5  | 145.4 |
| 1250  | 87.3 | 91.1 | 91.6  | 90.7  | 92.2  | 94.3 | 96.2  | 98.6  | 102.1 | 109.6 | 109.5 | 105.2 | 96.5  | 144.5 |
| 1600  | 89.0 | 89.9 | 91.3  | 91.2  | 93.5  | 95.1 | 96.9  | 99.7  | 103.1 | 108.4 | 108.8 | 102.0 | 95.0  | 143.8 |
| 2000  | 92.0 | 91.4 | 92.0  | 91.7  | 92.8  | 95.4 | 97.4  | 100.5 | 102.6 | 108.6 | 107.1 | 100.0 | 93.7  | 143.4 |
| 2500  | 92.3 | 94.5 | 95.6  | 94.3  | 94.9  | 96.1 | 97.5  | 101.4 | 103.7 | 109.3 | 107.0 | 98.6  | 92.6  | 144.0 |
| 3150  | 90.9 | 92.9 | 94.7  | 94.5  | 95.6  | 97.4 | 98.5  | 101.0 | 102.8 | 108.1 | 105.9 | 98.6  | 91.8  | 143.3 |
| 4000  | 90.0 | 91.2 | 92.8  | 93.3  | 95.7  | 97.4 | 98.3  | 101.4 | 103.2 | 106.7 | 104.2 | 96.7  | 91.5  | 142.6 |
| 5000  | 92.1 | 93.5 | 93.7  | 92.6  | 94.4  | 97.1 | 98.2  | 101.5 | 103.8 | 106.4 | 102.9 | 96.2  | 90.7  | 142.5 |
| 6300  | 92.5 | 94.5 | 94.6  | 93.7  | 95.3  | 96.7 | 98.3  | 101.7 | 102.9 | 105.3 | 102.1 | 95.7  | 90.4  | 142.3 |
| 8000  | 93.3 | 95.9 | 95.7  | 95.0  | 95.4  | 97.0 | 97.9  | 101.5 | 102.7 | 105.2 | 101.0 | 94.3  | 90.2  | 142.5 |
| 10000 | 95.3 | 99.0 | 100.6 | 98.2  | 97.3  | 98.8 | 99.1  | 101.5 | 102.9 | 106.2 | 101.5 | 95.7  | 91.0  | 144.3 |
| 12500 | 94.5 | 96.8 | 100.2 | 100.4 | 100.2 | 99.5 | 99.0  | 100.7 | 102.8 | 105.4 | 100.9 | 96.0  | 90.5  | 145.0 |
| 16000 | 91.0 | 95.2 | 95.6  | 97.2  | 99.3  | 99.0 | 98.6  | 99.2  | 100.5 | 103.0 | 99.8  | 94.8  | 89.6  | 144.5 |
| 20000 | 89.5 | 91.9 | 94.3  | 94.8  | 96.6  | 97.9 | 97.0  | 97.3  | 97.9  | 99.5  | 98.1  | 93.4  | 88.8  | 144.1 |
| 25000 | 86.7 | 90.4 | 92.7  | 93.6  | 95.2  | 96.6 | 96.2  | 96.2  | 97.5  | 97.8  | 95.2  | 91.6  | 85.5  | 145.1 |
| 31500 | 80.6 | 85.0 | 86.8  | 88.8  | 90.3  | 91.9 | 90.9  | 91.7  | 93.1  | 93.1  | 90.0  | 86.7  | 80.0  | 143.4 |
| 40000 | 76.9 | 81.9 | 84.2  | 85.1  | 88.1  | 89.4 | 88.3  | 89.2  | 90.0  | 90.7  | 86.9  | 83.0  | 76.6  | 144.6 |
| 50000 | 73.6 | 78.2 | 80.3  | 81.0  | 85.0  | 86.0 | 85.4  | 85.2  | 86.7  | 88.3  | 83.7  | 79.9  | 72.5  | 145.8 |
| 63000 | 68.8 | 74.1 | 77.4  | 77.0  | 81.3  | 83.0 | 80.4  | 82.2  | 83.9  | 85.5  | 80.6  | 75.2  | 67.7  | 147.8 |
| 80000 | 61.3 | 69.7 | 72.5  | 72.0  | 75.4  | 78.5 | 74.6  | 76.3  | 78.5  | 80.7  | 75.1  | 68.2  | 59.3  | 149.4 |

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CASPL 104.3 106.7 107.8 107.5 108.5 109.7 110.9 112.8 114.8 120.6 121.3 120.8 118.7 155.4  
PNL 115.7 117.7 118.6 118.1 119.5 121.2 122.8 125.2 127.2 132.6 131.8 128.7 125.3  
PNLT 115.7 117.7 118.6 118.7 119.5 121.2 124.0 125.2 127.2 132.6 131.8 128.7 125.3  
DBA 102.4 104.4 105.4 104.5 105.6 107.5 109.0 111.8 114.1 119.9 120.0 117.7 112.4

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH198 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
JAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNTNT = LBS XNL = RPM XNH = RPM V8 = 1637.5 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2358.7 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0506 TAPE = X0506C TEST PT NO = 0506 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0506 X0506F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 89.2  | 91.1  | 89.7  | 88.9  | 88.0  | 88.8  | 91.1  | 89.5  | 92.7  | 100.9 | 103.2 | 107.1 | 108.6 | 141.1 |
| 315   | 89.2  | 91.1  | 89.7  | 88.8  | 89.6  | 90.4  | 92.2  | 90.4  | 94.0  | 103.0 | 106.3 | 109.2 | 108.9 | 142.8 |
| 400   | 91.1  | 91.0  | 90.1  | 89.6  | 89.4  | 89.5  | 99.4  | 90.8  | 96.0  | 106.4 | 109.9 | 111.8 | 109.3 | 145.4 |
| 500   | 90.1  | 91.8  | 91.0  | 88.6  | 90.6  | 91.1  | 92.2  | 92.8  | 97.0  | 108.0 | 111.0 | 112.6 | 109.5 | 146.2 |
| 630   | 90.9  | 91.9  | 92.0  | 90.3  | 90.8  | 91.9  | 92.2  | 94.2  | 99.2  | 108.6 | 111.7 | 112.4 | 108.8 | 146.5 |
| 800   | 90.6  | 92.4  | 93.0  | 91.5  | 92.4  | 93.0  | 93.2  | 95.6  | 101.0 | 109.2 | 111.1 | 112.1 | 109.2 | 146.5 |
| 1000  | 92.6  | 93.2  | 93.6  | 92.4  | 93.0  | 93.4  | 94.4  | 96.5  | 101.3 | 108.7 | 109.3 | 108.5 | 107.1 | 144.8 |
| 1250  | 94.9  | 94.2  | 94.7  | 92.8  | 94.5  | 95.1  | 95.7  | 96.9  | 102.3 | 107.5 | 108.5 | 105.2 | 105.7 | 143.9 |
| 1600  | 94.8  | 97.5  | 96.7  | 94.4  | 95.9  | 96.1  | 96.6  | 98.1  | 101.9 | 107.7 | 106.9 | 103.1 | 104.5 | 143.5 |
| 2000  | 96.7  | 96.5  | 96.6  | 95.1  | 95.2  | 96.7  | 97.3  | 99.0  | 103.3 | 108.4 | 106.7 | 101.4 | 102.7 | 143.8 |
| 2500  | 98.1  | 96.9  | 97.4  | 95.3  | 97.7  | 97.7  | 97.6  | 100.2 | 102.9 | 107.9 | 106.2 | 102.2 | 103.0 | 143.8 |
| 3150  | 98.5  | 100.1 | 100.3 | 98.1  | 98.8  | 99.4  | 99.1  | 100.3 | 104.0 | 107.0 | 105.0 | 100.7 | 102.9 | 144.0 |
| 4000  | 98.4  | 99.6  | 100.3 | 98.9  | 99.4  | 100.0 | 99.5  | 101.3 | 104.6 | 106.7 | 103.7 | 100.2 | 101.9 | 144.1 |
| 5000  | 97.6  | 97.9  | 98.6  | 97.9  | 98.4  | 100.1 | 99.8  | 101.6 | 104.2 | 106.1 | 103.4 | 100.3 | 102.6 | 143.9 |
| 6300  | 99.5  | 100.2 | 99.5  | 97.4  | 99.3  | 99.7  | 100.1 | 102.1 | 104.1 | 106.3 | 102.5 | 99.1  | 102.6 | 144.3 |
| 8000  | 99.8  | 101.1 | 100.3 | 98.4  | 99.3  | 100.0 | 99.8  | 102.0 | 104.6 | 107.5 | 103.2 | 100.8 | 103.8 | 145.3 |
| 10000 | 99.7  | 101.8 | 100.9 | 99.3  | 101.1 | 101.8 | 101.0 | 102.0 | 104.9 | 107.2 | 103.3 | 101.8 | 104.0 | 146.3 |
| 12500 | 100.6 | 104.0 | 105.0 | 101.9 | 104.3 | 102.5 | 101.1 | 101.4 | 103.7 | 106.0 | 103.4 | 102.0 | 104.3 | 147.8 |
| 16000 | 100.8 | 102.4 | 104.9 | 104.1 | 103.3 | 102.0 | 100.9 | 100.3 | 102.5 | 104.0 | 103.2 | 101.7 | 104.2 | 148.7 |
| 20000 | 96.9  | 100.4 | 99.9  | 100.5 | 100.7 | 100.9 | 99.4  | 99.1  | 102.4 | 102.7 | 100.8 | 100.6 | 101.9 | 148.2 |
| 25000 | 94.8  | 96.5  | 98.0  | 97.5  | 99.8  | 99.6  | 98.6  | 97.8  | 98.6  | 98.5  | 96.1  | 96.4  | 97.2  | 148.0 |
| 31500 | 94.1  | 96.5  | 97.3  | 96.7  | 94.9  | 94.9  | 93.3  | 93.2  | 96.3  | 96.9  | 93.8  | 93.5  | 94.8  | 148.5 |
| 40000 | 87.1  | 90.3  | 90.6  | 91.0  | 92.7  | 92.4  | 90.6  | 90.6  | 92.7  | 94.0  | 90.0  | 89.7  | 90.2  | 148.5 |
| 50000 | 83.0  | 86.8  | 87.6  | 86.9  | 89.6  | 89.0  | 87.6  | 86.2  | 90.2  | 91.3  | 86.7  | 84.3  | 83.7  | 149.5 |
| 63000 | 78.7  | 82.1  | 82.7  | 81.9  | 85.9  | 86.0  | 82.3  | 82.7  | 86.4  | 88.1  | 82.8  | 78.9  | 76.8  | 150.9 |
| 80000 | 72.5  | 76.6  | 78.4  | 76.4  | 80.0  | 81.5  | 76.5  | 76.8  | 76.5  | 78.3  | 72.9  | 69.1  | 67.0  | 151.2 |
| OSPL  | 110.3 | 112.0 | 112.4 | 111.0 | 111.9 | 111.8 | 111.6 | 112.4 | 115.6 | 120.0 | 120.2 | 120.3 | 119.2 | 161.0 |
| PNL   | 121.2 | 122.4 | 122.4 | 120.8 | 121.6 | 122.3 | 122.4 | 123.8 | 127.2 | 131.2 | 130.1 | 128.0 | 128.5 |       |
| PNLT  | 121.2 | 122.4 | 122.4 | 120.8 | 121.6 | 122.3 | 123.6 | 123.8 | 127.2 | 131.2 | 130.1 | 128.0 | 128.5 |       |
| DBA   | 194.5 | 198.3 | 199.8 | 198.2 | 201.7 | 202.8 | 198.3 | 198.6 | 200.1 | 201.7 | 196.5 | 192.9 | 191.3 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH196 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1637.5 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2358.7 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0506 TAPE = X0506F TEST PT NO = 0506 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SS 2400.0 FT. SL

IDENTIFICATION - 82F-400-0506 X05061

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| 50    | 69.2 | 70.7 | 70.9  | 71.1  | 71.3  | 71.6  | 81.3  | 72.3  | 76.8  | 86.1  | 88.0 | 87.8 | 81.9 | 163.0 |
| 63    | 68.2 | 71.5 | 71.8  | 70.1  | 72.5  | 73.1  | 74.1  | 74.3  | 77.8  | 87.6  | 89.1 | 88.5 | 82.0 | 163.8 |
| 80    | 69.0 | 71.6 | 72.8  | 71.7  | 72.7  | 73.9  | 74.1  | 75.6  | 79.9  | 88.2  | 89.8 | 88.3 | 81.3 | 164.1 |
| 100   | 68.6 | 72.0 | 73.7  | 72.9  | 74.2  | 74.9  | 75.0  | 76.9  | 81.6  | 88.8  | 89.1 | 87.9 | 81.6 | 164.1 |
| 125   | 70.5 | 72.7 | 74.1  | 73.7  | 74.7  | 75.2  | 76.1  | 77.8  | 81.8  | 88.2  | 87.2 | 84.1 | 79.2 | 162.5 |
| 160   | 72.6 | 73.5 | 75.1  | 74.0  | 76.1  | 76.9  | 77.3  | 78.1  | 82.8  | 86.8  | 86.2 | 80.5 | 77.4 | 161.5 |
| 200   | 72.9 | 76.6 | 77.0  | 75.4  | 77.4  | 77.7  | 78.0  | 79.1  | 82.2  | 86.8  | 84.3 | 78.2 | 75.7 | 161.1 |
| 250   | 73.8 | 75.3 | 76.6  | 75.9  | 76.5  | 78.1  | 78.5  | 79.8  | 83.3  | 87.3  | 83.8 | 76.0 | 73.3 | 161.4 |
| 315   | 74.8 | 75.4 | 77.2  | 75.8  | 78.7  | 78.8  | 78.6  | 80.7  | 82.6  | 86.4  | 82.9 | 76.3 | 72.7 | 161.4 |
| 400   | 74.7 | 78.2 | 79.7  | 78.3  | 79.5  | 80.2  | 79.8  | 80.5  | 83.4  | 85.1  | 81.2 | 74.1 | 71.7 | 161.7 |
| 500   | 74.2 | 77.3 | 79.3  | 78.8  | 79.8  | 80.5  | 79.9  | 81.2  | 83.6  | 84.4  | 79.5 | 72.9 | 69.7 | 161.7 |
| 630   | 72.8 | 76.2 | 77.3  | 77.5  | 78.5  | 80.4  | 79.9  | 81.3  | 82.9  | 83.4  | 78.7 | 72.4 | 69.3 | 161.5 |
| 800   | 74.2 | 77.2 | 77.9  | 76.8  | 79.2  | 79.8  | 80.0  | 81.4  | 82.5  | 83.2  | 77.3 | 70.5 | 68.2 | 161.9 |
| 1000  | 74.1 | 77.7 | 78.5  | 77.6  | 79.1  | 79.9  | 79.6  | 81.1  | 82.8  | 84.1  | 77.6 | 71.6 | 68.2 | 162.9 |
| 1250  | 73.5 | 78.1 | 78.9  | 78.3  | 80.7  | 81.6  | 80.7  | 81.0  | 82.9  | 83.5  | 77.1 | 71.7 | 67.0 | 163.9 |
| 1600  | 73.6 | 79.7 | 82.5  | 80.6  | 83.6  | 82.0  | 80.4  | 80.1  | 81.2  | 81.7  | 76.4 | 70.5 | 64.9 | 165.4 |
| 2000  | 72.8 | 77.5 | 82.0  | 82.6  | 82.5  | 81.4  | 80.0  | 78.8  | 79.7  | 79.1  | 75.2 | 68.6 | 61.8 | 166.3 |
| 2500  | 67.1 | 74.2 | 76.2  | 78.3  | 79.3  | 79.8  | 78.0  | 76.8  | 78.7  | 76.6  | 71.0 | 64.7 | 54.6 | 165.9 |
| 3150  | 61.6 | 67.9 | 72.3  | 73.8  | 77.1  | 77.1  | 75.9  | 74.1  | 73.0  | 69.9  | 62.9 | 55.5 | 41.5 | 165.7 |
| 4000  | 54.6 | 63.2 | 67.9  | 69.6  | 69.1  | 69.6  | 67.5  | 66.1  | 66.9  | 63.6  | 54.4 | 43.7 | 24.7 | 166.1 |
| 5000  | 37.9 | 49.4 | 54.9  | 58.5  | 61.9  | 62.2  | 59.9  | 58.1  | 57.1  | 53.2  | 40.8 | 26.2 |      | 166.1 |
| 6300  | 16.0 | 31.7 | 39.8  | 43.6  | 48.7  | 48.9  | 46.7  | 42.9  | 42.5  | 36.3  | 19.8 |      |      | 167.1 |
| 8000  |      | 2.2  | 13.6  | 19.4  | 27.0  | 28.2  | 23.3  | 20.1  | 17.3  | 8.2   |      |      |      | 168.5 |
| 10000 |      |      |       |       |       |       |       |       |       |       |      |      |      | 168.8 |
| 12500 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |      |      |      |       |
| GASPL | 85.2 | 88.6 | 90.5  | 89.9  | 91.5  | 91.7  | 91.6  | 92.0  | 94.4  | 98.3  | 97.3 | 95.1 | 89.4 | 178.5 |
| PNL   | 93.4 | 97.9 | 101.0 | 101.2 | 102.2 | 102.1 | 101.1 | 100.7 | 102.6 | 103.7 | 99.9 | 95.6 | 90.0 |       |
| PNLT  | 94.5 | 99.0 | 101.6 | 102.2 | 102.2 | 102.1 | 101.6 | 100.7 | 103.2 | 104.3 | 99.9 | 95.6 | 90.0 |       |
| DBA   | 82.6 | 87.0 | 89.4  | 89.1  | 90.6  | 90.5  | 89.5  | 89.8  | 91.4  | 92.3  | 87.5 | 81.6 | 77.6 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                          |                      |                   |                   |
|----------------------|----------------------|--------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH196     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH     | CONFIG = 5           | MODEL = AX        | FLTVEL = 400. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE   | TAMB F = 74.00       | PAMB HG = 29.50   | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 2400.0 FT | EXT CONFIG = SL      | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =                | RPM V8 = 1637.5 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =               | RPM V18 = 2358.7 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-400-0506 | TAPE = X05061        | TEST PT NO = 0506        | NC = AE056           | CORR FAN SPEED =  | RPM               |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0507 X0507C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.8  | 82.8  | 81.3  | 81.4  | 81.5  | 81.6  | 79.5  | 85.1  | 85.6  | 84.4  | 92.5  | 92.5  | 93.6  | 128.5 |
| 63    | 89.4  | 90.5  | 87.2  | 88.9  | 90.6  | 89.7  | 88.4  | 91.5  | 91.5  | 89.5  | 99.2  | 97.1  | 99.3  | 135.0 |
| 80    | 89.2  | 94.0  | 90.0  | 90.3  | 90.6  | 93.5  | 93.6  | 92.8  | 92.5  | 94.8  | 95.9  | 97.9  | 100.3 | 135.9 |
| 100   | 89.0  | 95.8  | 91.0  | 92.1  | 93.2  | 94.3  | 94.4  | 96.1  | 93.3  | 97.8  | 98.2  | 101.9 | 104.6 | 138.5 |
| 125   | 85.7  | 89.4  | 92.2  | 93.4  | 94.6  | 95.2  | 95.1  | 95.7  | 94.5  | 99.8  | 103.9 | 107.1 | 108.8 | 141.7 |
| 160   | 86.9  | 85.2  | 90.0  | 89.7  | 89.4  | 91.0  | 97.4  | 93.3  | 93.2  | 100.8 | 104.7 | 107.9 | 111.0 | 142.6 |
| 200   | 88.1  | 87.4  | 88.6  | 89.8  | 91.0  | 93.6  | 95.8  | 95.4  | 98.1  | 101.7 | 106.1 | 110.0 | 112.7 | 144.2 |
| 250   | 87.8  | 91.6  | 91.1  | 91.3  | 91.5  | 93.3  | 96.2  | 98.1  | 98.8  | 107.4 | 111.3 | 114.2 | 114.6 | 147.8 |
| 315   | 87.4  | 90.4  | 90.2  | 91.9  | 93.6  | 95.9  | 98.8  | 98.2  | 101.2 | 109.7 | 112.9 | 115.8 | 115.7 | 149.4 |
| 400   | 87.5  | 90.8  | 92.0  | 92.8  | 93.7  | 94.8  | 107.4 | 98.8  | 102.3 | 112.1 | 115.0 | 117.4 | 115.8 | 151.1 |
| 500   | 89.5  | 91.5  | 92.6  | 93.2  | 93.9  | 96.0  | 98.2  | 99.8  | 103.1 | 113.9 | 116.5 | 117.9 | 116.6 | 151.9 |
| 630   | 89.4  | 92.5  | 94.0  | 94.5  | 95.1  | 97.2  | 99.1  | 100.8 | 104.0 | 115.3 | 117.4 | 118.9 | 117.0 | 152.9 |
| 800   | 93.4  | 94.2  | 95.0  | 95.7  | 96.4  | 98.5  | 99.4  | 102.3 | 105.2 | 115.3 | 118.2 | 119.1 | 117.3 | 153.3 |
| 1000  | 97.7  | 98.5  | 99.2  | 98.6  | 97.9  | 99.2  | 100.1 | 103.0 | 106.2 | 114.6 | 117.4 | 119.1 | 117.5 | 153.1 |
| 1250  | 97.8  | 102.3 | 101.3 | 101.4 | 101.4 | 103.1 | 102.7 | 103.9 | 107.1 | 114.1 | 117.0 | 119.4 | 117.0 | 153.1 |
| 1600  | 97.5  | 97.9  | 98.8  | 99.5  | 100.2 | 101.6 | 102.9 | 105.0 | 108.1 | 113.7 | 117.0 | 118.2 | 116.0 | 152.5 |
| 2000  | 101.3 | 100.2 | 99.8  | 99.3  | 98.8  | 100.7 | 102.7 | 105.0 | 107.8 | 113.1 | 115.9 | 117.0 | 113.2 | 151.5 |
| 2500  | 101.5 | 101.8 | 102.3 | 101.5 | 100.7 | 101.8 | 102.2 | 105.6 | 108.5 | 114.3 | 116.0 | 115.3 | 111.6 | 151.5 |
| 3150  | 98.9  | 100.9 | 101.7 | 101.4 | 101.0 | 102.1 | 103.2 | 105.2 | 107.0 | 113.4 | 115.4 | 113.3 | 109.6 | 150.5 |
| 4000  | 95.8  | 97.7  | 99.6  | 100.5 | 101.4 | 102.9 | 102.5 | 105.3 | 107.2 | 111.9 | 112.7 | 111.5 | 107.7 | 149.1 |
| 5000  | 95.3  | 97.0  | 98.4  | 99.1  | 99.8  | 102.3 | 102.7 | 105.2 | 107.7 | 111.3 | 112.7 | 110.0 | 106.5 | 148.8 |
| 6300  | 94.2  | 97.0  | 97.8  | 98.3  | 98.7  | 100.7 | 102.7 | 105.7 | 106.1 | 110.0 | 110.6 | 108.1 | 104.6 | 147.6 |
| 8000  | 93.0  | 96.8  | 97.7  | 97.7  | 97.8  | 100.4 | 101.8 | 104.9 | 105.4 | 108.9 | 108.7 | 107.0 | 103.1 | 146.9 |
| 10000 | 93.5  | 97.4  | 99.4  | 99.2  | 99.0  | 101.0 | 102.0 | 104.4 | 105.5 | 108.8 | 107.6 | 106.6 | 102.6 | 147.3 |
| 12500 | 93.1  | 96.9  | 99.2  | 99.7  | 100.3 | 100.8 | 100.3 | 102.2 | 103.6 | 106.7 | 105.5 | 104.3 | 101.1 | 146.6 |
| 16000 | 90.5  | 95.3  | 97.0  | 98.0  | 99.0  | 100.5 | 99.5  | 100.9 | 101.4 | 103.7 | 103.4 | 102.6 | 99.4  | 146.1 |
| 20000 | 88.6  | 92.1  | 94.3  | 95.5  | 96.7  | 98.7  | 97.8  | 97.6  | 98.2  | 101.1 | 101.6 | 100.4 | 97.8  | 145.5 |
| 25000 | 85.4  | 89.7  | 92.5  | 93.7  | 94.8  | 96.7  | 96.6  | 96.3  | 97.0  | 99.8  | 99.3  | 98.2  | 94.0  | 146.1 |
| 31500 | 79.8  | 84.5  | 86.6  | 88.2  | 89.9  | 92.5  | 91.0  | 90.8  | 92.8  | 96.0  | 94.5  | 92.6  | 87.9  | 144.5 |
| 40000 | 75.8  | 81.6  | 84.4  | 85.8  | 87.2  | 89.1  | 88.4  | 88.5  | 89.9  | 94.5  | 92.9  | 90.9  | 84.8  | 146.2 |
| 50000 | 72.6  | 78.5  | 81.1  | 82.7  | 84.2  | 86.7  | 85.2  | 84.9  | 87.7  | 93.0  | 91.8  | 88.9  | 81.1  | 148.5 |
| 63000 | 68.5  | 75.4  | 77.9  | 79.4  | 81.0  | 83.9  | 81.1  | 82.8  | 85.6  | 92.6  | 90.7  | 87.4  | 78.9  | 152.3 |
| 80000 | 63.8  | 72.1  | 74.9  | 76.0  | 77.1  | 79.7  | 77.3  | 78.8  | 80.1  | 91.6  | 90.3  | 84.0  | 74.0  | 157.4 |
| GASPL | 109.1 | 110.9 | 111.6 | 111.8 | 112.1 | 113.7 | 115.2 | 116.6 | 118.7 | 125.3 | 127.6 | 128.8 | 127.1 | 165.1 |
| PNL   | 122.5 | 123.8 | 124.5 | 124.5 | 124.7 | 126.3 | 127.5 | 129.3 | 131.4 | 137.4 | 139.5 | 139.5 | 137.0 |       |
| PNLT  | 122.5 | 125.2 | 124.5 | 124.5 | 125.3 | 126.3 | 129.0 | 129.3 | 131.4 | 137.4 | 139.5 | 139.5 | 137.0 |       |
| DBA   | 109.2 | 110.6 | 111.1 | 111.1 | 111.2 | 112.8 | 114.0 | 116.1 | 118.5 | 124.8 | 127.2 | 128.0 | 125.6 |       |

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NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH188      | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| 1APLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT              | MIKE HT =         | NDFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V3 = 1636.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRMB =              | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2389.4 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0507 | TAPE = X0507C        | TEST FT NO = 0507      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0507 X0507F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 83.8  | 82.8  | 81.3  | 81.4  | 81.5  | 81.6  | 79.5  | 85.1  | 85.6  | 84.4  | 92.5  | 92.5  | 93.6  | 128.5 |
| 63    | 89.4  | 90.5  | 87.2  | 88.9  | 90.6  | 89.7  | 88.4  | 91.5  | 91.5  | 89.5  | 99.2  | 98.1  | 99.3  | 135.0 |
| 80    | 89.2  | 94.0  | 90.0  | 90.3  | 90.6  | 93.5  | 93.6  | 92.8  | 92.5  | 94.8  | 95.9  | 97.9  | 100.3 | 135.9 |
| 100   | 89.0  | 95.8  | 91.0  | 92.1  | 93.2  | 94.3  | 94.4  | 96.1  | 93.3  | 97.8  | 98.2  | 101.9 | 104.6 | 138.5 |
| 125   | 85.7  | 89.4  | 92.2  | 93.4  | 94.6  | 95.2  | 95.1  | 95.7  | 94.5  | 99.8  | 103.9 | 107.1 | 108.8 | 141.7 |
| 160   | 86.9  | 85.2  | 90.0  | 89.7  | 89.4  | 91.0  | 92.4  | 93.3  | 93.2  | 100.8 | 104.7 | 107.9 | 111.0 | 142.6 |
| 200   | 88.1  | 87.4  | 88.6  | 89.8  | 91.0  | 93.6  | 95.8  | 95.4  | 98.1  | 101.7 | 106.1 | 110.0 | 112.7 | 144.2 |
| 250   | 87.8  | 91.6  | 91.1  | 91.3  | 91.5  | 93.3  | 96.2  | 98.1  | 98.8  | 107.4 | 111.3 | 114.2 | 114.6 | 147.8 |
| 315   | 87.4  | 90.4  | 90.2  | 91.9  | 93.6  | 95.9  | 98.8  | 98.2  | 101.2 | 109.7 | 112.9 | 115.8 | 115.7 | 149.4 |
| 400   | 87.5  | 90.8  | 92.0  | 92.8  | 93.7  | 94.8  | 107.4 | 98.8  | 102.3 | 112.1 | 115.0 | 117.4 | 115.8 | 151.1 |
| 500   | 89.5  | 91.5  | 92.6  | 93.2  | 93.9  | 96.0  | 98.2  | 99.8  | 103.1 | 113.9 | 116.5 | 117.9 | 116.6 | 151.9 |
| 630   | 89.4  | 92.5  | 94.0  | 94.5  | 95.1  | 97.2  | 98.1  | 100.8 | 104.0 | 115.3 | 117.4 | 118.9 | 117.0 | 152.9 |
| 800   | 93.4  | 94.2  | 95.0  | 95.7  | 96.4  | 98.5  | 99.4  | 102.3 | 105.2 | 115.3 | 118.2 | 119.1 | 117.3 | 153.3 |
| 1000  | 97.7  | 98.5  | 99.2  | 98.6  | 97.9  | 99.2  | 100.1 | 103.0 | 106.2 | 114.6 | 117.4 | 119.1 | 117.5 | 153.1 |
| 1250  | 97.8  | 102.3 | 101.3 | 101.4 | 101.4 | 103.1 | 102.7 | 103.9 | 107.1 | 114.1 | 117.0 | 119.4 | 117.0 | 153.1 |
| 1600  | 97.5  | 97.9  | 98.8  | 99.5  | 100.2 | 101.6 | 102.9 | 105.0 | 108.1 | 113.7 | 117.0 | 118.2 | 116.0 | 152.5 |
| 2000  | 101.3 | 100.2 | 99.8  | 99.3  | 98.8  | 100.7 | 102.7 | 105.0 | 107.8 | 113.1 | 115.9 | 117.0 | 113.2 | 151.5 |
| 2500  | 101.5 | 101.8 | 102.3 | 101.5 | 100.7 | 101.8 | 102.2 | 105.6 | 108.5 | 114.3 | 116.0 | 115.3 | 111.6 | 151.5 |
| 3150  | 98.9  | 100.9 | 101.7 | 101.4 | 101.0 | 102.1 | 103.2 | 105.2 | 107.0 | 113.4 | 115.4 | 113.3 | 109.6 | 150.5 |
| 4000  | 95.8  | 97.7  | 99.6  | 100.5 | 101.4 | 102.9 | 102.5 | 105.3 | 107.2 | 111.9 | 112.7 | 111.5 | 107.7 | 149.1 |
| 5000  | 95.3  | 97.0  | 98.4  | 99.1  | 99.8  | 102.3 | 102.7 | 105.2 | 107.7 | 111.3 | 112.7 | 110.0 | 106.5 | 148.8 |
| 6300  | 94.2  | 97.0  | 97.8  | 98.3  | 98.7  | 100.7 | 102.7 | 105.7 | 106.1 | 110.0 | 110.6 | 108.1 | 104.6 | 147.6 |
| 8000  | 93.0  | 96.8  | 97.7  | 97.7  | 97.8  | 100.4 | 101.8 | 104.9 | 105.4 | 108.9 | 108.7 | 107.0 | 103.1 | 146.9 |
| 10000 | 93.5  | 97.4  | 99.4  | 99.2  | 99.0  | 101.0 | 102.0 | 104.4 | 105.5 | 108.8 | 107.6 | 106.6 | 102.6 | 147.3 |
| 12500 | 93.1  | 96.9  | 99.2  | 99.7  | 100.3 | 100.8 | 100.3 | 102.2 | 103.6 | 106.7 | 105.5 | 104.3 | 101.1 | 146.6 |
| 16000 | 90.5  | 95.3  | 97.0  | 98.0  | 99.0  | 100.5 | 99.5  | 100.9 | 101.4 | 103.7 | 103.4 | 102.6 | 99.4  | 146.1 |
| 20000 | 88.6  | 92.1  | 94.3  | 95.5  | 96.7  | 98.7  | 97.3  | 97.6  | 98.2  | 101.1 | 101.6 | 100.4 | 97.8  | 145.5 |
| 25000 | 85.4  | 89.7  | 92.5  | 93.7  | 94.8  | 96.7  | 96.6  | 96.3  | 97.0  | 99.8  | 99.3  | 98.2  | 94.0  | 146.1 |
| 31500 | 79.8  | 84.5  | 86.6  | 88.2  | 89.9  | 92.5  | 91.0  | 90.8  | 92.8  | 96.0  | 94.5  | 92.6  | 87.9  | 144.5 |
| 40000 | 75.8  | 81.6  | 84.4  | 85.8  | 87.2  | 89.1  | 88.4  | 88.5  | 89.9  | 94.5  | 92.9  | 90.9  | 84.8  | 146.2 |
| 50000 | 72.6  | 78.5  | 81.1  | 82.7  | 84.2  | 86.7  | 85.2  | 84.9  | 87.7  | 93.0  | 91.8  | 88.9  | 81.1  | 148.5 |
| 63000 | 68.5  | 75.4  | 77.9  | 79.4  | 81.0  | 83.9  | 81.1  | 82.8  | 85.6  | 92.6  | 90.7  | 87.4  | 78.9  | 152.3 |
| 80000 | 63.8  | 72.1  | 74.9  | 76.0  | 77.1  | 79.7  | 77.3  | 78.8  | 83.1  | 91.6  | 90.3  | 84.0  | 74.0  | 157.4 |
| GASPL | 109.1 | 110.9 | 111.6 | 111.8 | 112.1 | 113.7 | 115.2 | 116.6 | 118.7 | 125.3 | 127.6 | 128.8 | 127.1 | 165.1 |
| PNL   | 122.5 | 123.8 | 124.5 | 124.5 | 124.7 | 126.3 | 127.5 | 129.3 | 131.4 | 137.4 | 139.5 | 139.5 | 137.0 |       |
| PNLT  | 122.5 | 125.2 | 124.5 | 124.5 | 125.3 | 126.3 | 129.0 | 129.3 | 131.4 | 137.4 | 139.5 | 139.5 | 137.0 |       |
| DBA   | 185.2 | 193.1 | 195.9 | 197.1 | 198.2 | 200.9 | 198.5 | 199.9 | 203.9 | 212.1 | 210.8 | 205.0 | 195.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |            |         |   |            |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|------------|---------|---|------------|--------|---|----------|
| VEHICL   | = | ADH188 | TEST DATE | = | 08-10-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 5          | MODEL   | = | AX         | FLTVEL | = | 0. FPS   |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 72.00      | PAMB HG | = | 29.50      | RELHUM | = | 90.7 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 40.0 FT      | EXT CONFIG | = | ARC        | MIKE HT | = |            | NBR    | = |          |
| FNIN1    | = | LBS    | XNL       | = | RPM      | XNH      | = | RPM          | V8         | = | 1636.9 FPS | AE8     | = | 4.0 SQ IN  |        |   |          |
| FNRAMB   | = | LBS    | XNLR      | = | RPM      | XNHR     | = | RPM          | V18        | = | 2209.4 FPS | AE18    | = | 20.2 SQ IN |        |   |          |

RUNPT = 82F-ZER-0507 TAPE = X0507F TEST PT NO = 0507 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SD 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0507 X05071

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| FREQ  |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50    | 65.6 | 70.5 | 72.8 | 74.3 | 75.6  | 76.8  | 89.3  | 80.3  | 83.1  | 91.8  | 93.2  | 93.4  | 88.5 | 168.7 |
| 63    | 67.6 | 71.2 | 73.3 | 74.7 | 75.8  | 78.1  | 80.1  | 81.3  | 83.8  | 93.5  | 94.6  | 93.9  | 89.2 | 169.5 |
| 80    | 67.5 | 72.1 | 74.7 | 76.0 | 77.0  | 79.2  | 80.0  | 82.2  | 84.7  | 94.9  | 95.5  | 94.7  | 89.5 | 170.5 |
| 100   | 71.4 | 73.8 | 75.7 | 77.1 | 78.2  | 80.4  | 81.2  | 83.7  | 85.9  | 94.9  | 96.2  | 94.9  | 89.6 | 170.9 |
| 125   | 75.6 | 77.9 | 79.8 | 79.9 | 79.6  | 81.1  | 81.8  | 84.3  | 86.8  | 94.0  | 95.3  | 94.7  | 89.6 | 170.7 |
| 160   | 75.5 | 81.6 | 81.8 | 82.6 | 83.1  | 84.8  | 84.3  | 85.0  | 87.5  | 93.5  | 94.7  | 94.8  | 88.7 | 170.7 |
| 200   | 75.0 | 77.0 | 79.1 | 80.6 | 81.7  | 83.2  | 84.4  | 86.0  | 88.4  | 92.8  | 94.5  | 93.8  | 87.2 | 170.1 |
| 250   | 78.4 | 79.0 | 79.9 | 80.1 | 80.1  | 82.1  | 83.9  | 85.8  | 87.9  | 92.0  | 93.0  | 91.6  | 83.8 | 169.1 |
| 315   | 78.2 | 80.3 | 82.0 | 82.0 | 81.7  | 82.9  | 83.2  | 86.1  | 88.2  | 92.8  | 92.7  | 89.4  | 81.4 | 169.1 |
| 400   | 75.1 | 79.0 | 81.1 | 81.6 | 81.7  | 82.9  | 83.9  | 85.4  | 86.4  | 91.5  | 91.6  | 86.7  | 78.3 | 168.1 |
| 500   | 71.5 | 75.4 | 78.6 | 80.4 | 81.8  | 83.5  | 82.9  | 85.3  | 86.3  | 89.6  | 88.4  | 84.2  | 75.5 | 166.7 |
| 630   | 70.5 | 74.3 | 77.1 | 78.7 | 80.0  | 82.6  | 82.8  | 84.9  | 86.4  | 88.6  | 87.9  | 82.1  | 73.2 | 166.4 |
| 800   | 68.9 | 73.9 | 76.2 | 77.6 | 78.6  | 80.8  | 82.6  | 85.0  | 84.5  | 86.9  | 85.3  | 79.5  | 70.2 | 165.3 |
| 1000  | 67.3 | 73.5 | 75.8 | 76.9 | 77.6  | 80.3  | 81.6  | 84.1  | 83.5  | 85.5  | 83.0  | 77.7  | 67.6 | 164.5 |
| 1250  | 67.3 | 73.7 | 77.4 | 78.2 | 78.6  | 80.8  | 81.6  | 83.4  | 83.5  | 85.1  | 81.4  | 76.5  | 65.6 | 164.9 |
| 1600  | 66.0 | 72.6 | 76.7 | 78.4 | 79.6  | 80.3  | 79.7  | 80.9  | 81.1  | 82.4  | 78.4  | 72.9  | 61.7 | 164.2 |
| 2000  | 62.4 | 70.4 | 74.1 | 76.4 | 78.2  | 79.9  | 78.7  | 79.3  | 78.5  | 78.8  | 75.4  | 69.5  | 57.0 | 163.7 |
| 2500  | 58.8 | 66.0 | 70.5 | 73.2 | 75.3  | 77.6  | 76.4  | 75.4  | 74.4  | 75.0  | 71.8  | 64.5  | 50.6 | 163.1 |
| 3150  | 52.2 | 61.1 | 66.9 | 69.9 | 72.1  | 74.2  | 73.8  | 72.5  | 71.4  | 71.2  | 66.1  | 57.3  | 38.3 | 163.7 |
| 4000  | 40.3 | 51.3 | 57.1 | 61.2 | 64.1  | 67.2  | 65.2  | 63.7  | 63.4  | 62.7  | 55.1  | 42.8  | 17.8 | 162.1 |
| 5000  | 26.6 | 40.8 | 48.7 | 53.3 | 56.4  | 58.9  | 57.6  | 56.0  | 54.3  | 53.7  | 43.7  | 27.4  |      | 163.8 |
| 6300  | 5.7  | 23.4 | 33.4 | 39.4 | 43.4  | 46.7  | 44.3  | 41.6  | 40.0  | 37.9  | 24.9  | 1.3   |      | 166.1 |
| 8000  |      |      | 8.8  | 16.9 | 22.0  | 26.1  | 22.1  | 20.3  | 16.5  | 12.7  |       |       |      | 169.9 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 175.0 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| CASPL | 85.4 | 88.8 | 90.7 | 91.6 | 92.8  | 94.1  | 95.7  | 96.5  | 98.1  | 103.9 | 104.7 | 103.5 | 97.8 | 102.4 |
| PNL   | 90.2 | 94.2 | 97.4 | 99.0 | 100.3 | 102.1 | 102.2 | 103.0 | 103.6 | 107.7 | 107.2 | 104.5 | 97.4 |       |
| PNLT  | 90.2 | 94.9 | 97.9 | 99.0 | 100.3 | 102.1 | 102.2 | 103.0 | 104.1 | 108.3 | 107.2 | 105.7 | 97.4 |       |
| DBA   | 79.1 | 83.5 | 86.3 | 87.6 | 88.6  | 90.5  | 90.8  | 92.5  | 93.0  | 95.9  | 95.1  | 91.6  | 84.1 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICLE = ADH188 TEST DATE = 08-10-82 LOCAT = C41 ANCH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NRER =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1636.9 FPS A88 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V10 = 2399.4 FPS A818 = 20.2 SQ IN

RUNPT = 82F-ZER-0507 TAPE = X05071 TEST PT NO = 0507 MC = AF050 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0508 X0508C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.5 | 85.1 | 81.8 | 81.4 | 81.0 | 81.1  | 81.0  | 82.9  | 83.3  | 87.4  | 91.3  | 91.0  | 99.6  | 130.1 |
| 63    | 89.7 | 90.0 | 88.5 | 86.0 | 87.9 | 88.0  | 88.1  | 86.5  | 88.5  | 91.8  | 91.7  | 91.9  | 98.3  | 132.1 |
| 80    | 88.7 | 93.2 | 89.0 | 90.0 | 90.1 | 92.2  | 91.9  | 90.8  | 91.5  | 94.1  | 94.2  | 95.9  | 100.8 | 134.9 |
| 100   | 88.0 | 93.8 | 89.0 | 89.1 | 91.4 | 92.0  | 92.9  | 94.3  | 91.8  | 95.3  | 96.2  | 100.7 | 103.8 | 137.0 |
| 125   | 85.2 | 88.4 | 90.2 | 90.0 | 92.1 | 93.0  | 92.8  | 93.0  | 91.7  | 96.5  | 100.2 | 104.6 | 106.8 | 139.1 |
| 160   | 84.7 | 82.0 | 87.5 | 85.5 | 86.9 | 87.7  | 93.6  | 89.0  | 90.2  | 97.5  | 101.4 | 104.9 | 108.5 | 139.7 |
| 200   | 86.1 | 85.1 | 84.4 | 83.9 | 86.3 | 88.6  | 91.5  | 91.9  | 94.1  | 97.7  | 101.1 | 106.5 | 109.9 | 140.8 |
| 250   | 82.3 | 85.8 | 85.3 | 85.9 | 86.7 | 89.3  | 93.2  | 93.6  | 94.3  | 102.4 | 107.0 | 110.2 | 110.9 | 143.7 |
| 315   | 84.4 | 85.7 | 85.2 | 85.7 | 88.1 | 90.2  | 94.1  | 93.2  | 96.2  | 105.7 | 108.6 | 112.1 | 111.7 | 145.3 |
| 400   | 83.5 | 86.0 | 86.5 | 85.3 | 87.9 | 90.0  | 100.7 | 93.6  | 97.0  | 107.9 | 110.7 | 112.9 | 110.3 | 146.4 |
| 500   | 83.7 | 86.0 | 87.6 | 87.1 | 88.9 | 91.0  | 93.2  | 94.8  | 98.8  | 109.4 | 113.3 | 112.9 | 107.8 | 147.2 |
| 630   | 83.4 | 86.5 | 87.7 | 88.3 | 89.6 | 92.5  | 92.6  | 95.8  | 98.7  | 110.5 | 112.7 | 112.4 | 105.5 | 147.0 |
| 800   | 85.7 | 86.7 | 88.7 | 88.8 | 90.4 | 93.0  | 94.6  | 97.8  | 100.7 | 110.6 | 113.2 | 110.9 | 101.3 | 146.9 |
| 1000  | 88.7 | 88.7 | 90.2 | 89.5 | 91.4 | 93.7  | 95.6  | 98.3  | 102.0 | 110.3 | 111.7 | 108.9 | 98.8  | 145.9 |
| 1250  | 88.3 | 91.8 | 91.8 | 91.0 | 92.9 | 95.6  | 96.4  | 99.4  | 102.1 | 109.9 | 110.0 | 105.4 | 97.2  | 144.9 |
| 1600  | 91.0 | 91.2 | 91.8 | 91.2 | 94.0 | 95.6  | 97.7  | 100.2 | 103.3 | 109.4 | 109.3 | 102.0 | 95.0  | 144.5 |
| 2000  | 95.0 | 95.2 | 94.3 | 92.7 | 93.6 | 95.9  | 97.7  | 100.5 | 103.1 | 109.1 | 107.4 | 100.0 | 94.7  | 143.9 |
| 2500  | 95.3 | 97.3 | 97.8 | 95.8 | 96.2 | 96.8  | 98.0  | 101.4 | 104.0 | 110.0 | 107.0 | 99.3  | 93.4  | 144.6 |
| 3150  | 92.4 | 94.7 | 96.4 | 96.5 | 97.1 | 98.4  | 99.3  | 101.2 | 103.0 | 108.9 | 106.6 | 98.6  | 92.3  | 144.0 |
| 4000  | 90.3 | 92.0 | 93.6 | 93.5 | 96.4 | 98.4  | 99.0  | 101.1 | 103.0 | 107.7 | 104.4 | 98.0  | 92.2  | 143.1 |
| 5000  | 91.3 | 93.3 | 93.9 | 93.1 | 94.6 | 98.1  | 99.0  | 101.5 | 104.0 | 106.9 | 104.2 | 97.0  | 91.5  | 142.0 |
| 6300  | 91.2 | 93.8 | 94.3 | 92.9 | 95.3 | 97.0  | 98.8  | 101.9 | 102.9 | 106.6 | 103.1 | 96.7  | 90.9  | 142.8 |
| 8000  | 91.8 | 95.4 | 94.7 | 93.5 | 94.6 | 97.2  | 98.4  | 101.2 | 102.9 | 106.0 | 101.8 | 94.8  | 90.2  | 142.8 |
| 10000 | 93.8 | 98.5 | 99.8 | 97.2 | 96.6 | 98.8  | 99.3  | 101.8 | 103.4 | 106.2 | 101.7 | 96.5  | 91.0  | 144.3 |
| 12500 | 94.2 | 97.1 | 99.7 | 98.9 | 99.5 | 100.0 | 99.5  | 100.9 | 103.0 | 104.9 | 101.4 | 96.5  | 91.0  | 144.9 |
| 16000 | 91.3 | 95.9 | 96.6 | 96.4 | 98.5 | 99.3  | 97.8  | 99.4  | 101.2 | 103.3 | 100.3 | 95.3  | 89.4  | 144.7 |
| 20000 | 89.5 | 92.1 | 94.0 | 94.3 | 96.4 | 97.2  | 96.5  | 96.6  | 98.4  | 100.0 | 98.4  | 93.6  | 88.8  | 143.9 |
| 25000 | 86.7 | 91.2 | 92.2 | 92.3 | 94.5 | 96.3  | 96.0  | 96.0  | 97.2  | 98.3  | 95.2  | 91.8  | 85.8  | 144.9 |
| 31500 | 80.4 | 85.5 | 87.1 | 88.0 | 90.0 | 92.1  | 91.1  | 90.7  | 92.8  | 93.6  | 90.5  | 86.5  | 80.3  | 143.3 |
| 40000 | 77.4 | 82.4 | 84.9 | 84.8 | 87.6 | 89.4  | 88.3  | 88.2  | 89.7  | 91.0  | 87.4  | 83.0  | 77.4  | 144.5 |
| 50000 | 73.3 | 79.4 | 80.8 | 80.5 | 84.0 | 86.2  | 85.2  | 84.5  | 87.4  | 88.1  | 84.2  | 79.6  | 73.5  | 145.7 |
| 63000 | 69.8 | 75.6 | 77.2 | 76.2 | 80.6 | 83.0  | 80.7  | 81.7  | 84.9  | 85.5  | 82.1  | 76.0  | 67.7  | 148.0 |
| 80000 | 63.8 | 71.2 | 72.8 | 70.5 | 74.4 | 78.2  | 74.9  | 76.1  | 80.2  | 82.0  | 76.9  | 69.5  | 60.0  | 150.0 |

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CASPL 104.7 107.3 108.0 107.2 108.5 110.1 111.2 112.9 115.1 121.2 121.8 121.0 119.0 159.7  
PNL 117.2 119.2 119.7 119.1 120.2 121.4 123.4 125.2 127.3 133.3 132.3 128.9 125.7  
PNLT 117.2 119.2 119.7 119.1 120.2 122.5 124.5 125.2 127.3 133.3 132.3 128.9 125.7  
DBA 103.4 105.4 106.0 104.9 106.2 108.2 109.5 112.0 114.3 120.6 120.6 117.9 112.9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                          |                  |                   |
|----------------------|----------------------|------------------------|--------------------------|------------------|-------------------|
| VEHICLE = ADH197     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5               | MODEL = AX       | FLTVEL = 400. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00           | PAMB HG = 29.50  | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT EXT CONFIG = ARC | MIKE HT =        | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1637.1 FPS      | AE8 =            | 4.0 SQ IN         |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2380.0 FPS     | AE18 =           | 20.2 SQ IN        |
| RUNPT = 82F-400-0508 | TAPE = X0508C        | TEST PT NO = 0508      | NC = AE056               | CORR FAN SPEED = | RPM               |



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0508 X0508F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 89.4  | 91.8  | 89.9  | 89.0  | 88.2  | 89.3  | 91.3  | 90.0  | 92.7  | 101.4 | 103.7 | 107.6 | 109.1 | 141.6 |
| 315   | 89.4  | 91.7  | 89.9  | 89.0  | 89.3  | 90.4  | 92.7  | 90.4  | 93.8  | 103.8 | 106.3 | 109.2 | 109.2 | 143.0 |
| 400   | 91.6  | 91.8  | 90.0  | 89.0  | 89.7  | 90.3  | 99.4  | 90.8  | 97.0  | 107.0 | 110.7 | 111.7 | 109.9 | 145.8 |
| 500   | 90.8  | 92.2  | 91.3  | 88.6  | 90.8  | 91.4  | 92.5  | 93.1  | 97.4  | 108.9 | 111.1 | 112.6 | 110.3 | 146.5 |
| 630   | 91.4  | 92.4  | 92.5  | 90.6  | 91.6  | 92.9  | 92.0  | 94.2  | 99.7  | 109.4 | 112.5 | 112.9 | 109.9 | 147.2 |
| 800   | 91.1  | 92.9  | 92.7  | 91.8  | 92.4  | 93.5  | 94.0  | 96.1  | 101.4 | 109.6 | 111.7 | 112.3 | 109.4 | 146.8 |
| 1000  | 93.4  | 93.2  | 93.8  | 92.4  | 93.5  | 94.4  | 95.1  | 96.7  | 101.3 | 109.0 | 109.9 | 108.8 | 107.9 | 145.3 |
| 1250  | 95.8  | 94.8  | 95.1  | 93.0  | 95.2  | 96.4  | 95.9  | 97.7  | 102.5 | 108.3 | 108.8 | 104.9 | 105.5 | 144.3 |
| 1600  | 95.9  | 98.3  | 97.0  | 94.7  | 96.4  | 96.6  | 97.3  | 98.5  | 102.5 | 108.3 | 107.2 | 103.3 | 105.6 | 144.1 |
| 2000  | 98.3  | 97.4  | 96.9  | 95.0  | 95.7  | 97.2  | 97.5  | 99.1  | 103.5 | 109.2 | 106.7 | 102.3 | 103.7 | 144.3 |
| 2500  | 100.8 | 100.0 | 98.2  | 95.7  | 98.6  | 98.4  | 98.1  | 100.2 | 103.1 | 108.6 | 106.9 | 102.1 | 103.3 | 144.5 |
| 3150  | 100.2 | 101.6 | 101.6 | 98.9  | 100.3 | 100.4 | 99.8  | 100.5 | 103.8 | 108.1 | 105.3 | 102.1 | 103.8 | 144.9 |
| 4000  | 99.9  | 101.3 | 102.0 | 100.9 | 100.1 | 101.0 | 100.2 | 101.0 | 104.8 | 107.2 | 105.0 | 100.9 | 102.7 | 144.9 |
| 5000  | 97.8  | 98.7  | 99.3  | 98.2  | 98.6  | 101.1 | 100.4 | 101.6 | 103.9 | 107.1 | 104.1 | 100.8 | 102.4 | 144.3 |
| 6300  | 98.7  | 100.0 | 99.7  | 97.9  | 99.3  | 100.0 | 100.4 | 102.1 | 104.1 | 106.7 | 102.9 | 99.0  | 101.7 | 144.4 |
| 8000  | 98.5  | 100.3 | 100.0 | 97.6  | 98.7  | 100.2 | 100.1 | 101.5 | 105.1 | 107.5 | 103.5 | 101.6 | 103.7 | 145.3 |
| 10000 | 99.0  | 101.8 | 100.2 | 98.0  | 100.5 | 101.8 | 101.3 | 102.3 | 105.4 | 107.0 | 104.1 | 102.7 | 104.8 | 146.4 |
| 12500 | 99.5  | 103.9 | 104.5 | 101.1 | 103.5 | 103.0 | 101.7 | 101.8 | 104.2 | 106.0 | 103.6 | 102.1 | 103.8 | 147.7 |
| 16000 | 100.6 | 102.7 | 104.4 | 102.6 | 102.7 | 102.3 | 100.0 | 100.0 | 101.6 | 104.0 | 103.0 | 101.6 | 104.0 | 148.3 |
| 20000 | 97.2  | 101.1 | 100.9 | 99.8  | 100.4 | 100.2 | 98.9  | 98.1  | 102.1 | 103.0 | 100.6 | 100.6 | 102.0 | 148.1 |
| 25000 | 94.8  | 96.7  | 97.7  | 97.0  | 98.5  | 99.3  | 98.4  | 97.5  | 98.3  | 98.9  | 96.5  | 96.0  | 97.3  | 147.8 |
| 31500 | 91.3  | 95.0  | 95.1  | 94.3  | 94.6  | 95.1  | 93.5  | 92.1  | 96.0  | 97.1  | 94.3  | 93.4  | 95.4  | 147.8 |
| 40000 | 86.9  | 90.8  | 90.9  | 90.2  | 92.2  | 92.4  | 90.6  | 89.6  | 93.9  | 94.3  | 91.1  | 90.1  | 91.9  | 148.7 |
| 50000 | 83.5  | 87.3  | 88.3  | 86.6  | 88.6  | 89.2  | 87.5  | 85.7  | 91.1  | 91.3  | 88.2  | 85.0  | 83.6  | 149.7 |
| 63000 | 78.5  | 83.3  | 83.2  | 81.4  | 85.2  | 86.0  | 82.5  | 82.1  | 86.0  | 89.2  | 84.4  | 79.0  | 77.4  | 151.4 |
| 80000 | 73.5  | 78.1  | 78.1  | 75.6  | 79.0  | 81.2  | 76.7  | 76.5  | 78.2  | 79.4  | 74.6  | 69.2  | 67.6  | 151.3 |
| OASPL | 110.6 | 112.4 | 112.5 | 110.6 | 111.7 | 112.2 | 111.8 | 112.4 | 115.8 | 120.6 | 120.7 | 120.5 | 119.7 | 161.2 |
| PNL   | 122.3 | 123.5 | 123.4 | 121.8 | 122.2 | 123.1 | 123.0 | 123.8 | 127.4 | 132.0 | 130.7 | 128.4 | 129.1 |       |
| PNLT  | 122.3 | 123.5 | 123.4 | 121.8 | 122.2 | 123.1 | 124.1 | 123.8 | 127.4 | 132.0 | 130.7 | 128.4 | 129.1 |       |
| DBA   | 195.1 | 199.7 | 199.8 | 197.5 | 200.8 | 202.6 | 198.5 | 198.2 | 201.6 | 202.7 | 198.1 | 193.1 | 191.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

|                 |                      |                        |                |                  |                   |
|-----------------|----------------------|------------------------|----------------|------------------|-------------------|
| VEHICL = ADH197 | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5     | MODEL = AX       | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00 | PAMB HG = 29.50  | RELHUM = 69.9 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT        | EXT CONFIG = ARC | MIKE HT =         |
| FNIN1 =         | LBS XNL =            | RPM XNH =              | RPM            | V8 = 1637.1 FPS  | AE8 = 4.0 SQ IN   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM            | V18 = 2380.0 FPS | AE18 = 20.2 SQ IN |

RUNPT = 82F-400-0508 TAPE = X0508F TEST PT NO = 0508 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0508 X05081

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 69.8 | 71.5 | 70.7 | 70.5 | 71.6 | 72.3 | 81.3 | 72.3 | 77.8 | 86.7 | 88.9 | 87.6 | 82.6 | 163.4 |
| 63    | 68.9 | 71.8 | 72.1 | 70.1 | 72.7 | 73.4 | 74.3 | 74.6 | 78.2 | 80.5 | 89.2 | 88.6 | 82.8 | 164.1 |
| 80    | 69.5 | 72.1 | 73.3 | 72.0 | 73.4 | 74.9 | 73.8 | 75.6 | 80.5 | 89.0 | 90.6 | 88.8 | 82.3 | 164.8 |
| 100   | 69.1 | 72.5 | 73.4 | 73.2 | 74.2 | 75.4 | 75.8 | 77.5 | 82.0 | 89.2 | 89.7 | 88.0 | 81.8 | 164.5 |
| 125   | 71.3 | 72.7 | 74.4 | 73.7 | 75.2 | 76.2 | 76.8 | 78.0 | 81.9 | 88.5 | 87.8 | 84.4 | 80.0 | 162.9 |
| 160   | 73.5 | 74.2 | 75.6 | 74.2 | 76.8 | 78.1 | 77.6 | 78.9 | 82.9 | 87.6 | 86.5 | 80.3 | 77.2 | 161.9 |
| 200   | 73.4 | 77.4 | 77.2 | 75.7 | 77.8 | 78.2 | 78.7 | 79.6 | 82.8 | 87.4 | 84.7 | 78.3 | 76.9 | 161.7 |
| 250   | 75.4 | 76.3 | 76.9 | 75.8 | 76.9 | 78.6 | 78.8 | 79.9 | 83.6 | 88.1 | 83.8 | 76.9 | 74.3 | 161.9 |
| 315   | 77.5 | 78.5 | 78.0 | 76.2 | 79.5 | 79.6 | 79.1 | 80.7 | 82.8 | 87.1 | 83.6 | 76.1 | 73.0 | 162.1 |
| 400   | 76.4 | 79.7 | 80.9 | 79.1 | 81.0 | 81.2 | 80.5 | 80.7 | 83.2 | 86.2 | 81.5 | 75.5 | 72.6 | 162.5 |
| 500   | 75.7 | 79.0 | 81.0 | 80.8 | 80.5 | 81.5 | 80.6 | 80.9 | 83.8 | 84.9 | 80.7 | 73.7 | 70.5 | 162.5 |
| 630   | 73.1 | 76.0 | 78.0 | 77.8 | 78.8 | 81.4 | 80.6 | 81.2 | 82.6 | 84.4 | 79.3 | 72.9 | 69.1 | 161.9 |
| 800   | 73.5 | 76.9 | 78.1 | 77.3 | 79.2 | 80.1 | 80.3 | 81.4 | 82.5 | 82.6 | 77.6 | 70.4 | 67.3 | 162.0 |
| 1000  | 72.8 | 77.0 | 78.2 | 76.8 | 78.4 | 80.1 | 79.9 | 80.6 | 83.2 | 84.1 | 77.8 | 72.3 | 68.2 | 162.9 |
| 1250  | 72.8 | 78.1 | 78.2 | 77.0 | 80.1 | 81.6 | 80.9 | 81.3 | 83.4 | 83.3 | 77.9 | 72.6 | 67.8 | 164.0 |
| 1600  | 72.5 | 79.6 | 82.0 | 79.8 | 82.8 | 82.5 | 81.0 | 80.5 | 81.7 | 81.7 | 76.5 | 70.7 | 64.4 | 165.3 |
| 2000  | 72.5 | 77.8 | 81.5 | 81.1 | 81.7 | 81.7 | 79.2 | 78.8 | 79.7 | 79.1 | 75.0 | 68.5 | 61.6 | 165.9 |
| 2500  | 67.4 | 75.0 | 77.2 | 77.5 | 79.0 | 79.0 | 77.5 | 75.8 | 78.3 | 76.9 | 70.8 | 64.7 | 54.7 | 165.7 |
| 3150  | 61.6 | 68.2 | 72.1 | 73.3 | 75.7 | 76.9 | 75.6 | 73.7 | 72.7 | 70.3 | 63.3 | 55.1 | 41.6 | 165.4 |
| 4000  | 51.8 | 61.7 | 65.7 | 67.2 | 68.9 | 69.8 | 67.7 | 65.1 | 66.6 | 62.8 | 54.9 | 43.6 | 25.2 | 165.4 |
| 5000  | 37.6 | 49.9 | 55.2 | 57.7 | 61.4 | 62.2 | 59.9 | 57.1 | 58.2 | 53.4 | 41.9 | 26.6 |      | 166.3 |
| 6300  | 16.5 | 32.2 | 40.6 | 43.4 | 47.7 | 49.2 | 46.7 | 42.5 | 43.4 | 36.2 | 21.2 |      |      | 167.3 |
| 8000  |      | 3.4  | 14.1 | 18.9 | 26.2 | 28.2 | 23.5 | 19.6 | 18.9 | 9.3  |      |      |      | 169.1 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 168.9 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| GASPL | 85.9 | 89.3 | 90.7  | 89.7  | 91.5  | 92.2  | 91.9  | 92.0  | 94.7  | 98.9  | 97.9  | 95.3 | 90.0 | 178.7 |
| PNL   | 93.5 | 98.3 | 100.9 | 100.3 | 101.8 | 102.3 | 101.0 | 100.6 | 102.6 | 104.0 | 100.2 | 95.9 | 90.4 |       |
| PNLT  | 93.5 | 98.9 | 101.5 | 100.9 | 101.8 | 102.3 | 101.5 | 100.6 | 103.2 | 104.6 | 100.2 | 95.9 | 90.4 |       |
| DBA   | 82.6 | 87.3 | 89.3  | 88.4  | 90.2  | 90.8  | 89.7  | 89.8  | 91.6  | 92.7  | 87.9  | 82.0 | 77.9 |       |

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|          |   |              |           |   |          |            |   |              |            |   |            |                |   |            |        |   |          |
|----------|---|--------------|-----------|---|----------|------------|---|--------------|------------|---|------------|----------------|---|------------|--------|---|----------|
| VEHICL   | = | ADH197       | TEST DATE | = | 08-10-82 | LOCAT      | = | C41 ANECH CH | CONFIG     | = | 5          | MODEL          | = | AX         | FLTVEL | = | 400. FPS |
| IAPLHA   | = | SB59         | IEGA      | = | NO       | PWL AREA   | = | FULL SPHERE  | TAMB F     | = | 74.00      | PAMB HG        | = | 29.50      | RELHUM | = | 69.9 PCT |
| WIND DIR | = |              | WIND VEL  | = | MPH      | EXT DIST   | = | 2400.0 FT    | EXT CONFIG | = | SL         | MIKE HT        | = |            | NBFR   | = |          |
| FNIN1    | = | LBS          | XNL       | = | RPM      | XNH        | = | RPM          | V8         | = | 1637.1 FPS | AE8            | = | 4.0 SQ IN  |        |   |          |
| FNRAMB   | = | LBS          | XNLR      | = | RPM      | XNHR       | = | RPM          | V18        | = | 2380.0 FPS | AE18           | = | 20.2 SQ IN |        |   |          |
| RUNPT    | = | 82F-400-0508 | TAPE      | = | X05081   | TEST PT NO | = | 05           | NC         | = | AE056      | CORR FAN SPEED | = |            | RPM    |   |          |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0509 X0509C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.5  | 83.1  | 81.3  | 81.5  | 81.7  | 82.3  | 81.0  | 85.6  | 86.1  | 84.9  | 83.0  | 83.2  | 84.6  | 129.2 |
| 63    | 92.4  | 89.2  | 86.2  | 86.2  | 90.1  | 90.0  | 89.1  | 92.0  | 92.2  | 92.0  | 98.9  | 97.6  | 100.0 | 135.2 |
| 80    | 88.9  | 93.2  | 90.0  | 90.1  | 90.1  | 92.7  | 92.9  | 92.0  | 92.5  | 95.1  | 95.4  | 97.6  | 100.0 | 135.5 |
| 100   | 89.5  | 96.5  | 91.5  | 92.7  | 93.9  | 94.8  | 95.2  | 96.1  | 94.3  | 98.6  | 99.2  | 102.9 | 105.6 | 139.3 |
| 125   | 85.9  | 89.7  | 92.2  | 93.3  | 94.3  | 95.5  | 95.6  | 95.7  | 94.7  | 100.0 | 103.9 | 107.3 | 108.5 | 141.7 |
| 160   | 86.9  | 86.0  | 90.5  | 90.0  | 89.6  | 90.7  | 97.9  | 93.3  | 94.0  | 101.0 | 105.2 | 108.1 | 111.0 | 142.8 |
| 200   | 88.3  | 87.1  | 88.4  | 89.7  | 91.0  | 93.9  | 96.0  | 95.4  | 97.9  | 102.2 | 105.8 | 110.0 | 112.7 | 144.2 |
| 250   | 88.0  | 91.1  | 91.1  | 91.0  | 91.0  | 93.1  | 95.2  | 98.1  | 99.1  | 107.4 | 111.5 | 114.5 | 115.1 | 148.1 |
| 315   | 87.6  | 90.9  | 90.7  | 92.0  | 93.3  | 95.4  | 96.8  | 98.0  | 100.9 | 109.7 | 112.9 | 116.1 | 116.2 | 149.6 |
| 400   | 88.0  | 91.0  | 92.3  | 93.0  | 93.7  | 95.0  | 107.2 | 98.8  | 102.3 | 112.6 | 115.5 | 117.4 | 116.6 | 151.4 |
| 500   | 89.7  | 91.3  | 92.3  | 93.1  | 93.9  | 96.3  | 98.2  | 99.6  | 103.3 | 113.4 | 116.8 | 117.9 | 116.8 | 151.9 |
| 630   | 89.7  | 92.5  | 94.0  | 94.7  | 95.4  | 97.2  | 97.9  | 101.0 | 103.5 | 115.0 | 117.4 | 119.1 | 117.5 | 152.9 |
| 800   | 93.2  | 94.2  | 95.2  | 95.7  | 96.1  | 98.2  | 99.6  | 102.8 | 105.7 | 114.8 | 117.9 | 119.1 | 119.0 | 153.2 |
| 1000  | 98.2  | 98.5  | 99.2  | 98.6  | 97.9  | 99.5  | 100.4 | 103.0 | 106.5 | 114.1 | 117.2 | 119.6 | 118.0 | 153.2 |
| 1250  | 97.5  | 101.8 | 101.8 | 101.8 | 101.7 | 102.6 | 102.7 | 104.1 | 106.8 | 114.1 | 117.0 | 118.9 | 117.7 | 153.1 |
| 1600  | 97.8  | 98.2  | 99.1  | 99.8  | 100.5 | 102.1 | 102.7 | 104.5 | 107.8 | 113.9 | 116.8 | 118.5 | 116.5 | 152.6 |
| 2000  | 101.5 | 100.7 | 100.3 | 99.6  | 98.8  | 100.7 | 102.4 | 105.0 | 107.8 | 113.1 | 115.9 | 116.5 | 113.5 | 151.4 |
| 2500  | 102.5 | 102.8 | 102.6 | 101.8 | 100.9 | 101.6 | 102.2 | 106.1 | 108.0 | 114.3 | 115.5 | 114.8 | 112.1 | 151.3 |
| 3150  | 99.6  | 101.2 | 101.7 | 101.7 | 101.8 | 102.6 | 103.2 | 105.5 | 107.3 | 113.4 | 115.1 | 113.0 | 109.8 | 150.5 |
| 4000  | 96.3  | 97.9  | 99.8  | 100.7 | 101.7 | 102.9 | 102.5 | 105.1 | 107.0 | 112.2 | 112.4 | 111.2 | 108.7 | 149.1 |
| 5000  | 95.3  | 97.5  | 98.4  | 99.1  | 99.8  | 102.0 | 102.9 | 105.2 | 107.0 | 111.1 | 112.2 | 109.7 | 106.7 | 148.5 |
| 6300  | 94.2  | 96.5  | 97.8  | 98.5  | 99.2  | 100.9 | 102.5 | 105.4 | 106.6 | 110.0 | 109.3 | 107.9 | 105.1 | 147.4 |
| 8000  | 93.8  | 96.8  | 97.9  | 98.0  | 98.1  | 100.1 | 101.8 | 105.2 | 105.9 | 108.9 | 107.7 | 105.7 | 103.9 | 146.7 |
| 10000 | 93.2  | 97.6  | 99.4  | 99.1  | 98.7  | 101.0 | 101.5 | 104.1 | 105.3 | 108.3 | 106.8 | 105.6 | 103.1 | 146.9 |
| 12500 | 93.3  | 96.6  | 99.2  | 99.1  | 99.0  | 100.8 | 99.8  | 102.7 | 103.6 | 106.2 | 105.5 | 103.8 | 101.8 | 146.4 |
| 16000 | 91.0  | 95.8  | 96.7  | 97.7  | 98.7  | 100.0 | 98.8  | 100.6 | 101.4 | 103.7 | 103.4 | 101.1 | 99.9  | 145.9 |
| 20000 | 89.3  | 92.4  | 94.8  | 95.7  | 96.7  | 98.2  | 98.0  | 97.6  | 98.7  | 100.4 | 101.4 | 99.4  | 98.6  | 145.4 |
| 25000 | 85.9  | 90.2  | 92.5  | 93.7  | 94.8  | 96.9  | 96.6  | 95.8  | 97.5  | 99.0  | 97.8  | 96.7  | 94.2  | 145.8 |
| 31500 | 79.8  | 85.0  | 87.3  | 88.6  | 89.9  | 92.5  | 91.2  | 91.0  | 92.8  | 95.0  | 94.3  | 92.1  | 88.2  | 144.3 |
| 40000 | 76.1  | 81.4  | 84.4  | 85.8  | 87.2  | 89.3  | 88.4  | 88.5  | 89.9  | 93.8  | 92.2  | 89.6  | 85.1  | 145.9 |
| 50000 | 72.4  | 78.5  | 80.8  | 82.8  | 84.7  | 86.7  | 84.9  | 84.9  | 87.5  | 93.2  | 91.6  | 88.2  | 82.6  | 148.5 |
| 63000 | 68.8  | 75.1  | 78.2  | 79.6  | 81.0  | 83.4  | 81.1  | 82.8  | 86.1  | 92.1  | 90.9  | 86.6  | 80.4  | 152.1 |
| 80000 | 64.1  | 72.4  | 74.2  | 75.4  | 76.6  | 80.0  | 77.8  | 78.5  | 83.1  | 90.6  | 89.0  | 83.5  | 74.5  | 156.8 |

CASPL 109.5 111.1 111.8 111.9 112.2 113.7 115.1 116.6 118.7 125.2 127.5 128.8 127.6 165.0  
PNL 123.1 124.3 124.6 124.8 125.0 126.4 127.4 129.4 131.3 137.4 139.3 139.2 137.5  
PNLT 123.1 125.4 124.6 124.8 125.0 126.4 128.9 129.4 131.3 137.4 139.3 139.2 137.5  
DBA 109.7 110.8 111.3 111.3 111.4 112.8 113.9 116.2 118.4 124.7 127.0 127.9 126.2

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH189      | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = APC     | MIKE HT =         | NBFR =            |
| FNINI =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1640.1 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2400.5 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0509 | TAPE = X0509C        | TEST PT NO = 0509      | NC = AE056           | COPR FAN SPEED =  | BDM               |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SD 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0509 X0509F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.5  | 83.1  | 81.3  | 81.5  | 81.7  | 82.3  | 81.0  | 85.6  | 86.1  | 84.9  | 93.0  | 93.2  | 94.6  | 129.2 |
| 63    | 92.4  | 89.2  | 86.2  | 88.2  | 90.1  | 90.0  | 88.1  | 92.0  | 92.2  | 92.8  | 98.9  | 97.6  | 100.0 | 135.2 |
| 80    | 88.9  | 93.2  | 90.0  | 90.1  | 90.1  | 92.7  | 92.9  | 92.0  | 92.5  | 95.1  | 95.4  | 97.6  | 100.0 | 135.5 |
| 100   | 89.5  | 96.5  | 91.5  | 92.7  | 93.9  | 94.8  | 93.2  | 96.1  | 94.3  | 98.6  | 99.2  | 102.9 | 105.6 | 139.3 |
| 125   | 85.9  | 89.7  | 92.2  | 93.3  | 94.3  | 95.5  | 95.6  | 95.7  | 94.7  | 100.0 | 103.9 | 107.3 | 108.5 | 141.7 |
| 160   | 86.9  | 86.0  | 90.5  | 90.0  | 89.6  | 90.7  | 97.9  | 93.3  | 94.0  | 101.0 | 105.2 | 108.1 | 111.0 | 142.8 |
| 200   | 88.3  | 87.1  | 88.4  | 89.7  | 91.0  | 93.9  | 96.0  | 95.4  | 97.9  | 102.2 | 105.8 | 110.0 | 112.7 | 144.2 |
| 250   | 88.0  | 91.1  | 91.1  | 91.0  | 91.0  | 93.1  | 96.2  | 98.1  | 99.1  | 107.4 | 111.5 | 114.5 | 115.1 | 148.1 |
| 315   | 87.6  | 90.9  | 90.7  | 92.0  | 93.3  | 95.4  | 98.8  | 98.0  | 100.9 | 109.7 | 112.9 | 116.1 | 116.2 | 149.6 |
| 400   | 88.0  | 91.0  | 92.3  | 93.0  | 93.7  | 95.0  | 107.2 | 98.8  | 102.3 | 112.6 | 115.5 | 117.4 | 116.6 | 151.4 |
| 500   | 89.7  | 91.3  | 92.3  | 93.1  | 93.9  | 96.3  | 98.2  | 99.6  | 103.3 | 113.4 | 116.8 | 117.0 | 116.8 | 151.9 |
| 630   | 89.7  | 92.5  | 94.0  | 94.7  | 95.4  | 97.2  | 97.9  | 101.0 | 103.5 | 115.0 | 117.4 | 119.1 | 117.5 | 152.9 |
| 800   | 93.2  | 94.2  | 95.2  | 95.7  | 96.1  | 98.2  | 99.6  | 102.8 | 105.7 | 114.8 | 117.9 | 119.1 | 118.0 | 153.2 |
| 1000  | 98.2  | 98.5  | 99.2  | 98.6  | 97.9  | 99.5  | 100.4 | 103.0 | 106.5 | 114.1 | 117.2 | 119.6 | 118.0 | 153.2 |
| 1250  | 97.5  | 101.8 | 101.8 | 101.8 | 101.7 | 102.6 | 102.7 | 104.1 | 106.8 | 114.1 | 117.0 | 118.9 | 117.7 | 153.1 |
| 1600  | 97.8  | 98.2  | 99.1  | 99.8  | 100.5 | 102.1 | 102.7 | 104.5 | 107.8 | 113.9 | 116.8 | 118.5 | 116.5 | 152.6 |
| 2000  | 101.5 | 100.7 | 100.3 | 99.6  | 98.8  | 100.7 | 102.4 | 105.0 | 107.8 | 113.1 | 115.9 | 116.5 | 113.5 | 151.4 |
| 2500  | 102.5 | 102.8 | 102.6 | 101.8 | 100.9 | 101.6 | 102.2 | 106.1 | 108.0 | 114.3 | 115.5 | 114.8 | 112.1 | 151.3 |
| 3150  | 99.6  | 101.2 | 101.7 | 101.7 | 101.8 | 102.6 | 103.2 | 105.5 | 107.3 | 113.4 | 115.1 | 113.0 | 109.8 | 150.5 |
| 4000  | 96.3  | 97.9  | 99.8  | 100.7 | 101.7 | 102.9 | 102.5 | 105.1 | 107.0 | 112.2 | 112.4 | 111.2 | 108.7 | 149.1 |
| 5000  | 95.3  | 97.5  | 98.4  | 99.1  | 99.8  | 102.0 | 102.9 | 105.2 | 107.0 | 111.1 | 112.2 | 109.7 | 106.7 | 148.5 |
| 6300  | 94.2  | 96.5  | 97.6  | 98.5  | 99.2  | 100.9 | 102.5 | 105.4 | 106.6 | 110.0 | 109.3 | 107.9 | 105.1 | 147.4 |
| 8000  | 93.8  | 96.8  | 97.9  | 98.0  | 98.1  | 100.1 | 101.8 | 105.2 | 105.9 | 108.9 | 107.7 | 105.7 | 103.9 | 146.7 |
| 10000 | 93.2  | 97.6  | 99.4  | 99.1  | 98.7  | 101.0 | 101.5 | 104.1 | 105.3 | 108.3 | 106.8 | 105.6 | 103.1 | 146.9 |
| 12500 | 93.3  | 96.6  | 99.2  | 99.1  | 99.0  | 100.8 | 99.8  | 102.7 | 103.6 | 106.2 | 105.5 | 103.6 | 101.8 | 146.4 |
| 16000 | 91.0  | 95.8  | 96.7  | 97.7  | 98.7  | 100.0 | 98.8  | 100.6 | 101.4 | 103.7 | 103.4 | 101.1 | 99.9  | 145.9 |
| 20000 | 89.3  | 92.4  | 94.8  | 95.7  | 96.7  | 98.2  | 98.0  | 97.6  | 98.7  | 100.4 | 101.4 | 99.4  | 98.6  | 145.4 |
| 25000 | 85.9  | 90.2  | 92.5  | 93.7  | 94.8  | 96.9  | 96.6  | 95.8  | 97.5  | 99.0  | 97.8  | 96.7  | 94.2  | 145.8 |
| 31500 | 79.8  | 85.0  | 87.3  | 88.6  | 89.9  | 92.5  | 91.2  | 91.0  | 92.8  | 95.0  | 94.3  | 92.1  | 88.2  | 144.3 |
| 40000 | 76.1  | 81.4  | 84.4  | 85.8  | 87.2  | 89.3  | 88.4  | 88.5  | 89.9  | 93.8  | 92.2  | 89.6  | 85.1  | 145.9 |
| 50000 | 72.4  | 78.5  | 80.8  | 82.8  | 84.7  | 86.7  | 84.9  | 84.9  | 87.5  | 93.2  | 91.6  | 88.2  | 82.6  | 148.5 |
| 63000 | 68.8  | 75.1  | 78.2  | 79.6  | 81.0  | 83.4  | 81.1  | 82.8  | 86.1  | 92.1  | 90.9  | 86.6  | 80.4  | 152.1 |
| 80000 | 64.1  | 72.4  | 74.2  | 75.4  | 76.6  | 80.0  | 77.8  | 78.5  | 83.1  | 90.6  | 90.0  | 83.5  | 74.5  | 156.8 |
| CASPL | 109.5 | 111.1 | 111.8 | 111.9 | 112.2 | 113.7 | 115.1 | 116.6 | 118.7 | 125.2 | 127.5 | 128.8 | 127.6 | 165.0 |
| PNL   | 123.1 | 124.3 | 124.6 | 124.8 | 125.0 | 126.4 | 127.4 | 129.4 | 131.3 | 137.4 | 139.3 | 139.2 | 137.5 |       |
| PNLT  | 123.1 | 125.4 | 124.6 | 124.8 | 125.0 | 126.4 | 128.9 | 129.4 | 131.3 | 137.4 | 139.3 | 139.2 | 137.5 |       |
| DBA   | 185.5 | 193.3 | 195.3 | 196.6 | 197.9 | 201.0 | 193.9 | 199.7 | 204.0 | 211.2 | 210.6 | 204.4 | 196.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH189 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMP F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBRF =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1640.1 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 3400.5 FPS AEB = 20.2 SQ IN

RUNPT = 82F-ZER-0509 TAPE = X0509F TEST PT NO = 0509 NC = A055 CORR FAN SPEED = RYH

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0509 X05091

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 66.1 | 70.7 | 73.1 | 74.5 | 75.6  | 77.1  | 89.1  | 80.3  | 83.1  | 92.3  | 93.7  | 93.4  | 89.2 | 169.0 |
| 63    | 67.9 | 71.0 | 73.1 | 74.6 | 75.8  | 78.3  | 80.1  | 81.1  | 84.1  | 93.0  | 94.9  | 93.9  | 89.4 | 169.5 |
| 80    | 67.8 | 72.1 | 74.7 | 76.1 | 77.2  | 79.2  | 79.7  | 82.4  | 84.2  | 94.7  | 95.5  | 95.0  | 90.0 | 170.6 |
| 100   | 71.2 | 73.8 | 75.9 | 77.1 | 77.9  | 80.2  | 81.4  | 84.2  | 86.4  | 94.4  | 96.0  | 94.9  | 90.4 | 170.9 |
| 125   | 76.1 | 77.9 | 79.8 | 79.9 | 79.6  | 81.3  | 82.1  | 84.3  | 87.1  | 92.5  | 95.1  | 95.2  | 90.1 | 170.8 |
| 160   | 75.2 | 81.1 | 82.3 | 82.9 | 83.3  | 84.3  | 84.3  | 85.3  | 87.3  | 92.5  | 94.7  | 94.3  | 89.4 | 170.7 |
| 200   | 75.2 | 77.3 | 79.4 | 80.8 | 81.9  | 83.7  | 84.1  | 85.5  | 88.1  | 92.0  | 94.3  | 93.5  | 87.7 | 170.2 |
| 250   | 78.6 | 79.5 | 80.4 | 80.4 | 80.1  | 82.1  | 83.7  | 85.8  | 87.9  | 92.0  | 93.0  | 91.1  | 84.1 | 169.0 |
| 315   | 79.2 | 81.3 | 82.3 | 82.3 | 81.9  | 82.7  | 83.2  | 86.6  | 87.7  | 92.8  | 92.2  | 88.9  | 81.9 | 168.9 |
| 400   | 75.8 | 79.3 | 81.1 | 81.9 | 82.5  | 83.4  | 83.9  | 85.7  | 86.7  | 91.5  | 91.3  | 86.4  | 78.6 | 168.1 |
| 500   | 72.0 | 75.7 | 78.9 | 80.7 | 82.1  | 83.5  | 82.9  | 85.0  | 86.0  | 89.9  | 88.1  | 84.0  | 76.5 | 166.7 |
| 630   | 70.5 | 74.8 | 77.1 | 78.7 | 80.0  | 82.3  | 83.1  | 84.9  | 85.7  | 88.4  | 87.4  | 81.8  | 73.5 | 166.1 |
| 800   | 68.9 | 73.4 | 76.2 | 77.9 | 79.1  | 81.0  | 82.4  | 84.8  | 85.0  | 86.9  | 84.1  | 79.3  | 70.7 | 165.0 |
| 1000  | 68.1 | 73.5 | 76.1 | 77.2 | 77.8  | 80.1  | 81.6  | 84.3  | 84.0  | 85.5  | 82.0  | 76.4  | 68.3 | 164.4 |
| 1250  | 67.0 | 73.9 | 77.4 | 78.1 | 78.3  | 80.8  | 81.1  | 83.2  | 83.2  | 84.6  | 80.6  | 75.5  | 66.1 | 164.5 |
| 1600  | 66.2 | 72.3 | 76.7 | 77.8 | 78.4  | 80.3  | 79.2  | 81.4  | 81.1  | 81.9  | 78.4  | 72.4  | 62.5 | 164.0 |
| 2000  | 62.9 | 70.9 | 73.9 | 76.2 | 77.9  | 79.4  | 78.0  | 79.1  | 78.5  | 78.8  | 75.4  | 68.0  | 57.5 | 163.5 |
| 2500  | 59.5 | 66.3 | 71.0 | 73.5 | 75.3  | 77.1  | 76.6  | 75.4  | 74.9  | 74.3  | 71.5  | 63.5  | 51.3 | 163.0 |
| 3150  | 52.7 | 61.6 | 66.9 | 69.9 | 72.1  | 74.5  | 73.8  | 72.0  | 71.9  | 70.5  | 64.6  | 55.8  | 38.5 | 163.4 |
| 4000  | 40.3 | 51.8 | 57.9 | 61.6 | 64.1  | 67.2  | 65.5  | 64.0  | 63.4  | 61.7  | 54.9  | 42.3  | 18.0 | 161.9 |
| 5000  | 26.9 | 40.5 | 48.7 | 53.3 | 56.4  | 59.1  | 57.6  | 56.0  | 54.3  | 52.9  | 43.0  | 26.1  |      | 163.5 |
| 6300  | 5.4  | 23.4 | 33.1 | 39.5 | 43.9  | 46.7  | 44.1  | 41.6  | 39.8  | 38.1  | 24.6  | 0.5   |      | 166.1 |
| 8000  |      |      | 9.1  | 17.0 | 22.0  | 25.6  | 22.1  | 20.3  | 17.0  | 12.2  |       |       |      | 169.7 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 174.5 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| CASPL | 85.9 | 89.0 | 90.9 | 91.8 | 92.4  | 94.0  | 95.5  | 96.5  | 98.0  | 103.8 | 104.6 | 103.5 | 98.4 | 182.3 |
| PWL   | 90.8 | 94.7 | 97.5 | 98.9 | 100.2 | 102.0 | 102.1 | 103.1 | 103.6 | 107.6 | 106.9 | 104.4 | 97.9 |       |
| PWLT  | 90.8 | 95.3 | 97.5 | 98.9 | 100.7 | 102.0 | 102.1 | 103.1 | 103.6 | 108.2 | 106.9 | 105.5 | 97.9 |       |
| DBA   | 79.5 | 83.7 | 86.4 | 87.7 | 88.6  | 90.4  | 90.6  | 92.5  | 93.0  | 95.8  | 94.7  | 91.3  | 84.6 |       |

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH189 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1640.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2400.5 FPS AE18 = 20.2 SQ IN  
 RUNPT = 82F-ZER-0509 TAPE = X05091 TEST PT NO = 0509 NC = AE056 CORR FAN SPEED = RPM

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0510 X0510C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.8 | 86.8 | 82.3 | 80.6 | 81.7 | 82.1 | 81.2  | 83.4  | 83.8  | 86.2  | 91.5  | 91.5  | 99.4  | 130.2 |
| 75    | 90.9 | 91.2 | 87.7 | 85.8 | 89.9 | 88.2 | 88.9  | 88.5  | 87.7  | 90.5  | 92.7  | 91.9  | 100.0 | 132.9 |
| 80    | 88.4 | 93.2 | 89.2 | 90.0 | 90.1 | 92.0 | 92.4  | 91.5  | 91.5  | 93.1  | 93.7  | 95.9  | 101.0 | 134.9 |
| 100   | 87.7 | 94.0 | 89.3 | 89.3 | 91.9 | 92.5 | 93.2  | 94.3  | 91.8  | 95.3  | 96.5  | 100.4 | 104.3 | 137.2 |
| 125   | 85.4 | 88.7 | 90.5 | 90.5 | 92.1 | 93.2 | 93.1  | 93.5  | 92.0  | 97.3  | 100.9 | 104.6 | 107.5 | 139.5 |
| 160   | 84.4 | 82.0 | 87.2 | 85.3 | 87.6 | 88.0 | 94.4  | 90.0  | 90.7  | 98.3  | 101.7 | 104.9 | 108.8 | 139.9 |
| 200   | 86.3 | 85.1 | 84.4 | 84.7 | 86.8 | 89.4 | 92.0  | 92.2  | 94.4  | 97.7  | 101.6 | 106.8 | 110.2 | 141.0 |
| 250   | 82.5 | 85.6 | 85.1 | 85.9 | 87.0 | 89.6 | 93.2  | 93.6  | 94.8  | 102.9 | 107.3 | 110.7 | 111.4 | 144.1 |
| 315   | 84.4 | 85.4 | 85.4 | 86.0 | 88.6 | 90.9 | 94.3  | 94.0  | 96.7  | 105.7 | 109.1 | 112.1 | 112.0 | 145.5 |
| 400   | 83.5 | 86.0 | 86.5 | 85.8 | 88.7 | 90.0 | 101.4 | 94.3  | 97.5  | 108.1 | 110.7 | 113.4 | 110.6 | 146.7 |
| 500   | 84.0 | 86.3 | 87.8 | 87.6 | 89.4 | 91.3 | 93.4  | 95.3  | 99.1  | 109.4 | 113.0 | 113.4 | 108.8 | 147.4 |
| 630   | 83.9 | 87.0 | 88.7 | 88.3 | 90.4 | 92.5 | 93.6  | 96.5  | 99.5  | 110.0 | 113.2 | 113.4 | 105.8 | 147.4 |
| 800   | 85.7 | 86.7 | 88.2 | 88.8 | 91.1 | 93.5 | 94.9  | 98.3  | 101.2 | 110.6 | 114.0 | 111.4 | 102.3 | 147.4 |
| 1000  | 88.7 | 89.0 | 90.5 | 89.5 | 91.9 | 94.2 | 95.6  | 98.5  | 102.0 | 110.3 | 112.2 | 110.1 | 99.5  | 146.4 |
| 1250  | 88.5 | 92.6 | 92.3 | 91.7 | 93.2 | 95.8 | 96.9  | 99.1  | 102.6 | 110.1 | 110.8 | 106.9 | 98.0  | 145.5 |
| 1600  | 92.3 | 91.7 | 92.8 | 92.0 | 94.5 | 96.6 | 98.4  | 100.7 | 104.1 | 109.7 | 109.8 | 103.7 | 96.7  | 145.0 |
| 2000  | 95.8 | 95.9 | 95.3 | 93.2 | 94.3 | 96.2 | 97.9  | 101.0 | 103.6 | 109.4 | 107.9 | 101.5 | 95.2  | 144.3 |
| 2500  | 95.0 | 98.0 | 98.1 | 96.6 | 96.9 | 97.6 | 98.5  | 102.1 | 104.2 | 110.0 | 107.3 | 100.3 | 94.6  | 144.9 |
| 3150  | 92.1 | 95.2 | 95.7 | 96.5 | 98.8 | 99.4 | 99.5  | 101.7 | 103.5 | 109.1 | 107.4 | 99.8  | 93.6  | 144.5 |
| 4000  | 90.3 | 92.0 | 93.6 | 94.0 | 96.9 | 99.4 | 100.0 | 102.6 | 104.0 | 107.9 | 105.2 | 99.0  | 92.7  | 143.8 |
| 5000  | 91.6 | 93.0 | 93.4 | 93.3 | 95.4 | 98.6 | 99.7  | 102.0 | 104.8 | 107.6 | 104.7 | 98.5  | 92.2  | 143.7 |
| 6300  | 91.5 | 93.3 | 93.3 | 92.4 | 95.8 | 97.7 | 99.5  | 102.4 | 103.4 | 106.6 | 103.6 | 97.2  | 91.7  | 143.2 |
| 8000  | 92.8 | 94.4 | 95.0 | 93.5 | 95.1 | 97.5 | 99.1  | 102.2 | 103.7 | 106.0 | 102.5 | 96.0  | 90.9  | 143.2 |
| 10000 | 94.8 | 97.8 | 99.1 | 97.2 | 97.1 | 98.8 | 100.1 | 102.3 | 103.4 | 106.7 | 102.0 | 96.7  | 91.2  | 144.5 |
| 12500 | 95.0 | 96.8 | 99.2 | 99.4 | 99.2 | 99.7 | 100.0 | 101.4 | 102.8 | 105.2 | 101.7 | 97.0  | 92.3  | 145.0 |
| 16000 | 92.0 | 94.9 | 96.6 | 96.7 | 98.5 | 99.3 | 98.8  | 99.4  | 101.2 | 103.3 | 100.0 | 95.6  | 90.1  | 144.7 |
| 20000 | 90.3 | 92.4 | 94.0 | 94.6 | 95.9 | 98.2 | 97.5  | 96.6  | 98.7  | 100.7 | 98.6  | 94.1  | 89.5  | 144.4 |
| 25000 | 87.2 | 90.9 | 93.0 | 92.8 | 94.7 | 96.6 | 97.0  | 96.0  | 97.7  | 98.8  | 95.2  | 92.3  | 86.5  | 145.3 |
| 31500 | 81.4 | 85.3 | 87.1 | 88.3 | 89.5 | 92.4 | 91.6  | 91.0  | 92.8  | 93.8  | 90.3  | 87.2  | 80.5  | 143.5 |
| 40000 | 78.1 | 82.7 | 84.2 | 84.8 | 87.6 | 89.7 | 89.5  | 88.7  | 90.2  | 91.0  | 87.4  | 83.7  | 77.6  | 144.9 |
| 50000 | 74.6 | 79.2 | 81.0 | 80.8 | 84.2 | 86.7 | 85.4  | 85.2  | 86.9  | 88.6  | 84.5  | 80.1  | 73.5  | 146.0 |
| 63000 | 70.3 | 75.1 | 76.9 | 76.5 | 80.3 | 82.5 | 80.9  | 82.2  | 83.9  | 86.8  | 81.9  | 75.5  | 68.7  | 148.1 |
| 80000 | 64.3 | 70.7 | 73.5 | 71.0 | 74.4 | 78.5 | 76.1  | 77.1  | 79.5  | 83.7  | 76.9  | 68.7  | 59.8  | 150.7 |

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GASPL 105.2 107.3 107.9 107.4 108.9 110.5 111.8 113.5 115.5 121.3 122.2 121.6 119.4 160.1  
PNL 117.3 119.6 119.8 119.2 121.3 122.6 124.0 126.1 127.9 133.5 132.8 129.6 126.2  
PNLT 117.3 120.1 119.8 119.7 121.3 122.6 125.2 126.1 127.9 133.5 132.8 129.6 126.2  
DBA 103.7 105.6 106.0 105.2 107.0 108.8 110.1 112.6 114.9 120.7 121.0 118.8 113.4

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH198     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 400. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00       | PAMB HG = 29.50   | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1641.0 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2401.4 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-400-0510 | TAPE = X0510C        | TEST PT NO = 0510      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0510 X0510F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 90.0  | 91.7  | 89.8  | 89.0  | 88.5  | 89.6  | 91.3  | 90.0  | 93.2  | 101.4 | 104.2 | 107.6 | 109.4 | 141.7 |
| 315   | 89.9  | 91.7  | 89.8  | 89.0  | 90.4  | 91.1  | 93.0  | 91.2  | 94.3  | 104.0 | 106.3 | 109.7 | 109.4 | 143.2 |
| 400   | 92.1  | 91.8  | 90.4  | 89.4  | 90.5  | 90.3  | 100.1 | 91.6  | 96.9  | 106.5 | 109.9 | 111.5 | 110.2 | 145.5 |
| 500   | 91.1  | 92.4  | 91.5  | 89.2  | 91.3  | 91.6  | 92.7  | 93.4  | 95.2  | 108.3 | 111.5 | 113.5 | 110.4 | 146.9 |
| 630   | 91.7  | 92.7  | 92.8  | 91.1  | 92.3  | 92.9  | 93.0  | 94.9  | 100.3 | 109.4 | 113.3 | 113.4 | 110.4 | 147.7 |
| 800   | 91.6  | 93.4  | 93.7  | 91.8  | 93.2  | 94.0  | 94.2  | 96.6  | 101.5 | 109.8 | 112.4 | 113.6 | 110.3 | 147.6 |
| 1000  | 93.4  | 93.2  | 94.3  | 92.4  | 94.0  | 94.9  | 95.1  | 97.1  | 102.0 | 109.4 | 110.8 | 110.4 | 108.8 | 146.1 |
| 1250  | 96.2  | 95.4  | 95.6  | 93.1  | 95.5  | 96.6  | 96.5  | 97.5  | 103.5 | 108.9 | 109.7 | 107.1 | 107.6 | 145.3 |
| 1600  | 96.1  | 99.0  | 97.5  | 95.4  | 96.9  | 97.6  | 98.1  | 99.2  | 103.1 | 108.7 | 107.9 | 104.9 | 106.2 | 144.7 |
| 2000  | 99.3  | 97.8  | 97.8  | 95.7  | 96.4  | 97.5  | 97.8  | 99.6  | 103.9 | 109.4 | 107.3 | 103.8 | 105.7 | 144.9 |
| 2500  | 101.8 | 100.9 | 99.3  | 96.2  | 99.4  | 99.2  | 98.7  | 101.0 | 103.7 | 109.0 | 107.9 | 103.8 | 105.1 | 145.3 |
| 3150  | 100.2 | 102.7 | 102.1 | 99.8  | 102.1 | 101.4 | 100.1 | 101.1 | 104.8 | 108.4 | 106.1 | 103.2 | 104.4 | 145.6 |
| 4000  | 99.7  | 101.8 | 101.3 | 100.9 | 101.2 | 102.0 | 101.2 | 102.5 | 105.6 | 108.0 | 105.5 | 102.5 | 103.6 | 145.6 |
| 5000  | 100.6 | 101.0 | 101.0 | 99.8  | 99.4  | 101.6 | 101.2 | 102.1 | 104.6 | 107.3 | 104.9 | 101.7 | 103.8 | 145.2 |
| 6300  | 99.0  | 99.7  | 99.2  | 98.2  | 99.8  | 100.7 | 101.3 | 102.7 | 105.1 | 106.9 | 103.9 | 100.8 | 103.2 | 145.0 |
| 8000  | 98.8  | 99.8  | 99.0  | 97.1  | 99.2  | 100.5 | 101.0 | 102.6 | 105.0 | 108.0 | 103.7 | 101.8 | 103.9 | 145.6 |
| 10000 | 100.0 | 100.8 | 100.5 | 98.0  | 101.0 | 101.8 | 102.0 | 102.8 | 105.4 | 107.6 | 104.8 | 103.5 | 106.3 | 146.8 |
| 12500 | 100.8 | 103.3 | 103.9 | 101.2 | 103.3 | 102.7 | 102.3 | 102.5 | 104.5 | 106.3 | 103.7 | 102.8 | 104.8 | 147.9 |
| 16000 | 101.3 | 102.4 | 103.9 | 103.1 | 102.6 | 102.3 | 101.1 | 100.6 | 103.1 | 105.0 | 103.5 | 102.3 | 104.8 | 148.7 |
| 20000 | 97.9  | 100.1 | 100.9 | 100.0 | 99.9  | 101.2 | 99.9  | 98.2  | 102.7 | 103.7 | 100.8 | 101.3 | 102.8 | 148.5 |
| 25000 | 95.6  | 97.0  | 97.7  | 97.3  | 98.8  | 99.6  | 99.4  | 97.6  | 98.4  | 99.3  | 96.4  | 96.9  | 97.6  | 148.1 |
| 31500 | 91.8  | 94.7  | 95.9  | 94.8  | 94.1  | 95.4  | 94.0  | 92.5  | 96.7  | 97.4  | 94.6  | 94.4  | 95.8  | 148.1 |
| 40000 | 87.9  | 90.5  | 90.9  | 90.5  | 92.2  | 92.7  | 91.9  | 90.2  | 93.4  | 94.8  | 91.3  | 90.6  | 91.9  | 148.9 |
| 50000 | 84.2  | 87.5  | 87.6  | 86.6  | 88.8  | 89.7  | 87.7  | 86.5  | 90.1  | 92.5  | 87.9  | 84.4  | 84.6  | 149.9 |
| 63000 | 79.7  | 83.1  | 83.5  | 81.7  | 84.9  | 85.5  | 82.7  | 82.6  | 87.2  | 90.9  | 84.3  | 79.2  | 77.2  | 151.7 |
| 80000 | 74.0  | 77.6  | 77.9  | 75.9  | 79.0  | 81.5  | 77.9  | 77.4  | 77.4  | 81.1  | 74.5  | 69.4  | 67.4  | 151.6 |
| CASPL | 111.3 | 112.5 | 112.5 | 110.9 | 112.1 | 112.6 | 112.5 | 113.1 | 116.3 | 120.8 | 121.3 | 121.4 | 120.4 | 161.6 |
| PNL   | 122.9 | 124.2 | 123.6 | 122.0 | 123.4 | 123.8 | 123.7 | 124.8 | 128.1 | 132.3 | 131.4 | 129.4 | 130.0 |       |
| PNLT  | 122.9 | 124.2 | 123.6 | 122.0 | 123.4 | 123.8 | 124.9 | 124.8 | 128.1 | 132.3 | 131.4 | 129.4 | 130.0 |       |
| DBA   | 195.8 | 199.3 | 199.6 | 197.7 | 200.8 | 202.7 | 199.4 | 199.0 | 200.8 | 204.4 | 198.0 | 193.3 | 191.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH198 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBGR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1641.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2401.4 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0510 TAPE = X0510F TEST PT NO = 0510 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0510 X05101

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.2 | 71.5 | 71.1  | 70.8  | 72.4  | 72.3  | 82.0  | 73.1  | 77.7  | 86.2  | 88.0  | 87.4 | 82.8 | 163.1 |
| 63    | 69.3 | 72.1 | 72.2  | 70.7  | 73.2  | 73.6  | 74.6  | 74.9  | 78.9  | 88.0  | 89.6  | 89.4 | 82.9 | 164.5 |
| 80    | 69.8 | 72.3 | 73.5  | 72.5  | 74.2  | 74.9  | 74.8  | 76.3  | 81.0  | 89.0  | 91.4  | 89.3 | 82.8 | 165.3 |
| 100   | 69.6 | 73.0 | 74.4  | 73.2  | 75.0  | 75.9  | 76.0  | 78.0  | 82.2  | 89.4  | 90.4  | 89.4 | 82.6 | 165.2 |
| 125   | 71.3 | 72.7 | 74.9  | 73.7  | 75.7  | 76.7  | 76.9  | 78.4  | 82.5  | 88.9  | 88.7  | 86.0 | 80.9 | 163.7 |
| 160   | 73.9 | 74.7 | 76.0  | 74.3  | 77.1  | 78.4  | 78.1  | 78.7  | 83.9  | 88.2  | 87.4  | 82.5 | 79.3 | 162.9 |
| 200   | 73.5 | 78.1 | 77.7  | 76.4  | 78.3  | 79.2  | 79.6  | 80.2  | 83.3  | 87.8  | 85.3  | 80.0 | 77.5 | 162.3 |
| 250   | 76.4 | 76.6 | 77.8  | 76.5  | 77.7  | 78.8  | 79.0  | 80.4  | 83.9  | 88.3  | 84.4  | 78.4 | 76.3 | 162.5 |
| 315   | 78.5 | 79.4 | 79.0  | 76.7  | 80.4  | 80.3  | 79.7  | 81.5  | 83.4  | 87.5  | 84.6  | 77.8 | 74.9 | 162.9 |
| 400   | 76.4 | 80.8 | 81.5  | 80.0  | 82.7  | 82.2  | 80.8  | 81.3  | 84.2  | 86.5  | 82.3  | 76.6 | 73.2 | 163.2 |
| 500   | 75.4 | 79.5 | 80.3  | 80.8  | 81.6  | 82.5  | 81.6  | 82.4  | 84.6  | 85.7  | 81.2  | 75.3 | 71.4 | 163.2 |
| 630   | 75.9 | 78.3 | 79.8  | 79.4  | 79.5  | 81.9  | 81.3  | 81.7  | 83.3  | 84.6  | 80.1  | 73.8 | 70.5 | 162.8 |
| 800   | 73.7 | 76.7 | 77.6  | 77.5  | 79.7  | 80.8  | 81.2  | 82.1  | 83.5  | 83.9  | 78.7  | 72.1 | 68.8 | 162.6 |
| 1000  | 73.1 | 76.5 | 77.2  | 76.3  | 78.9  | 80.4  | 80.8  | 81.8  | 83.2  | 84.6  | 78.0  | 72.5 | 68.4 | 163.2 |
| 1250  | 73.8 | 77.1 | 78.4  | 77.0  | 80.6  | 81.6  | 81.6  | 81.8  | 83.4  | 83.9  | 78.6  | 73.4 | 69.3 | 164.4 |
| 1600  | 73.8 | 79.0 | 81.4  | 79.9  | 82.6  | 82.3  | 81.6  | 81.2  | 82.0  | 82.0  | 76.6  | 71.3 | 65.4 | 165.5 |
| 2000  | 73.3 | 77.5 | 81.0  | 81.6  | 81.7  | 81.7  | 80.3  | 79.0  | 80.2  | 80.1  | 75.4  | 69.2 | 62.5 | 166.3 |
| 2500  | 68.1 | 74.0 | 77.2  | 77.8  | 78.5  | 80.0  | 78.5  | 76.0  | 79.0  | 77.6  | 71.0  | 65.4 | 55.5 | 166.1 |
| 3150  | 62.4 | 68.4 | 72.1  | 73.5  | 76.0  | 77.1  | 76.6  | 73.8  | 72.8  | 70.7  | 63.2  | 56.0 | 41.9 | 165.7 |
| 4000  | 52.3 | 61.4 | 66.4  | 67.7  | 68.4  | 70.1  | 68.3  | 65.4  | 67.3  | 64.1  | 55.1  | 44.6 | 25.6 | 165.7 |
| 5000  | 38.6 | 49.7 | 55.2  | 58.0  | 61.4  | 62.5  | 61.2  | 57.7  | 57.7  | 53.9  | 42.1  | 27.1 |      | 166.5 |
| 6300  | 17.2 | 32.5 | 39.8  | 43.4  | 48.0  | 49.7  | 46.9  | 43.2  | 42.3  | 37.4  | 20.9  |      |      | 167.5 |
| 8000  |      | 3.2  | 14.4  | 19.1  | 26.0  | 27.7  | 23.8  | 20.0  | 18.1  | 11.0  |       |      |      | 169.3 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |      |      | 169.2 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| CASPL | 86.5 | 89.5 | 90.8  | 90.1  | 92.0  | 92.7  | 92.6  | 92.7  | 95.2  | 99.1  | 98.4  | 96.2 | 90.7 | 179.1 |
| PNL   | 94.2 | 98.3 | 100.3 | 100.8 | 102.0 | 102.7 | 101.8 | 101.1 | 103.2 | 104.4 | 100.7 | 97.0 | 91.3 |       |
| PNLT  | 94.2 | 98.9 | 101.3 | 101.3 | 102.0 | 103.2 | 101.8 | 101.1 | 103.2 | 105.0 | 100.7 | 97.0 | 91.3 |       |
| DBA   | 83.4 | 87.2 | 89.1  | 88.7  | 90.4  | 91.1  | 90.5  | 90.4  | 92.1  | 93.1  | 88.6  | 83.1 | 79.0 |       |

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OF POOR QUALITY

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH198 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1641.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2401.4 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0510 TAPE = X05101 TEST PT NO = 0510 NC = AE056 CORR FAN SPEED = RPM

PI185-08



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0511 X0511C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.8  | 84.6  | 81.8  | 82.3  | 82.7  | 82.1  | 81.2  | 85.1  | 85.8  | 86.4  | 92.5  | 93.2  | 94.1  | 129.2 |
| 63    | 92.4  | 91.5  | 88.0  | 89.8  | 91.6  | 90.0  | 89.6  | 91.8  | 92.0  | 91.3  | 93.9  | 90.4  | 99.3  | 135.4 |
| 80    | 89.2  | 93.2  | 89.7  | 90.3  | 90.9  | 93.5  | 92.6  | 92.3  | 92.5  | 94.6  | 94.9  | 97.4  | 100.0 | 135.5 |
| 100   | 89.2  | 96.0  | 91.5  | 92.7  | 93.9  | 94.8  | 95.2  | 96.8  | 94.3  | 90.6  | 99.0  | 102.4 | 105.1 | 139.1 |
| 125   | 85.4  | 89.7  | 92.2  | 93.4  | 94.6  | 95.2  | 95.3  | 96.0  | 94.5  | 100.5 | 103.7 | 107.1 | 108.5 | 141.6 |
| 160   | 86.4  | 85.7  | 90.2  | 89.9  | 89.6  | 91.0  | 97.9  | 93.3  | 94.0  | 101.0 | 105.4 | 108.1 | 110.8 | 142.7 |
| 200   | 88.3  | 88.1  | 88.9  | 90.3  | 91.8  | 94.1  | 96.0  | 96.2  | 98.9  | 102.4 | 106.3 | 110.0 | 113.2 | 144.6 |
| 250   | 87.5  | 91.1  | 91.3  | 91.5  | 91.7  | 93.6  | 93.2  | 98.6  | 99.3  | 107.6 | 112.3 | 114.7 | 114.9 | 149.3 |
| 315   | 87.9  | 90.7  | 90.7  | 92.1  | 93.6  | 96.4  | 99.1  | 98.2  | 101.7 | 110.5 | 113.1 | 115.8 | 116.0 | 149.6 |
| 400   | 88.0  | 91.5  | 92.0  | 92.7  | 93.4  | 95.0  | 106.7 | 99.3  | 102.5 | 112.6 | 115.5 | 117.4 | 115.8 | 151.3 |
| 500   | 89.7  | 91.5  | 92.6  | 93.5  | 94.4  | 96.5  | 93.4  | 100.1 | 104.3 | 114.4 | 117.3 | 117.7 | 116.3 | 152.2 |
| 630   | 90.2  | 93.0  | 94.5  | 95.0  | 95.6  | 98.0  | 98.4  | 101.5 | 104.5 | 115.5 | 117.7 | 118.6 | 117.0 | 152.9 |
| 800   | 93.2  | 94.5  | 95.5  | 95.9  | 96.4  | 98.5  | 99.9  | 103.0 | 106.5 | 115.3 | 118.7 | 119.4 | 117.3 | 153.6 |
| 1000  | 99.2  | 99.2  | 99.2  | 98.8  | 98.4  | 99.7  | 100.4 | 103.3 | 107.2 | 115.1 | 117.9 | 119.6 | 117.8 | 153.5 |
| 1250  | 97.8  | 102.3 | 102.8 | 102.3 | 101.7 | 102.8 | 103.2 | 104.4 | 107.6 | 115.1 | 117.3 | 118.9 | 116.7 | 153.2 |
| 1600  | 98.0  | 98.7  | 99.6  | 100.2 | 100.7 | 102.1 | 103.2 | 105.2 | 108.3 | 114.2 | 117.5 | 118.0 | 115.2 | 152.7 |
| 2000  | 102.8 | 101.2 | 100.3 | 99.7  | 99.1  | 100.9 | 102.9 | 105.0 | 108.3 | 114.1 | 116.4 | 116.2 | 113.0 | 151.7 |
| 2500  | 103.5 | 103.8 | 103.6 | 102.5 | 101.4 | 102.1 | 102.5 | 106.1 | 108.5 | 115.0 | 115.8 | 114.6 | 110.8 | 151.6 |
| 3150  | 100.1 | 101.4 | 102.4 | 102.4 | 102.3 | 103.1 | 103.7 | 105.7 | 107.5 | 114.1 | 115.4 | 112.5 | 109.6 | 150.8 |
| 4000  | 96.5  | 98.2  | 100.1 | 101.1 | 102.2 | 103.4 | 102.8 | 106.1 | 107.7 | 112.9 | 112.4 | 110.5 | 107.7 | 149.3 |
| 5000  | 96.0  | 98.0  | 98.6  | 99.4  | 100.1 | 102.8 | 103.7 | 105.7 | 108.0 | 112.1 | 112.4 | 109.5 | 106.7 | 149.0 |
| 6300  | 94.7  | 97.2  | 98.0  | 99.0  | 100.0 | 101.4 | 103.0 | 105.7 | 106.9 | 110.8 | 109.8 | 107.6 | 104.6 | 147.8 |
| 8000  | 93.8  | 96.8  | 98.7  | 98.5  | 98.3  | 101.1 | 101.6 | 105.4 | 105.6 | 109.4 | 103.4 | 105.7 | 103.1 | 147.0 |
| 10000 | 93.5  | 97.1  | 99.4  | 99.1  | 98.7  | 101.5 | 101.7 | 104.1 | 105.3 | 109.3 | 107.1 | 105.6 | 102.4 | 147.2 |
| 12500 | 93.1  | 96.4  | 99.5  | 99.2  | 99.0  | 100.8 | 100.3 | 102.7 | 103.6 | 106.4 | 105.5 | 104.1 | 101.6 | 146.5 |
| 16000 | 90.5  | 95.6  | 96.7  | 97.9  | 99.0  | 99.7  | 99.0  | 100.9 | 100.9 | 104.2 | 103.4 | 101.6 | 99.4  | 145.9 |
| 20000 | 88.1  | 92.1  | 94.3  | 95.5  | 96.7  | 98.5  | 97.5  | 97.9  | 98.7  | 100.6 | 101.4 | 99.2  | 97.6  | 145.3 |
| 25000 | 85.4  | 89.7  | 92.5  | 93.8  | 95.1  | 96.9  | 96.3  | 95.8  | 97.5  | 99.5  | 98.5  | 96.7  | 93.2  | 145.9 |
| 31500 | 78.8  | 84.3  | 86.8  | 88.2  | 89.6  | 92.3  | 91.0  | 91.3  | 92.8  | 95.7  | 94.8  | 92.1  | 87.2  | 144.4 |
| 40000 | 75.6  | 81.1  | 84.4  | 85.8  | 87.2  | 89.3  | 88.4  | 88.5  | 90.2  | 94.0  | 93.4  | 89.6  | 83.8  | 146.1 |
| 50000 | 72.1  | 77.7  | 80.8  | 82.5  | 84.2  | 86.7  | 84.9  | 84.9  | 88.2  | 93.7  | 92.1  | 89.2  | 80.4  | 148.8 |
| 63000 | 68.3  | 74.6  | 77.7  | 79.3  | 81.0  | 83.4  | 81.3  | 82.8  | 85.9  | 92.6  | 91.2  | 87.1  | 78.6  | 152.3 |
| 80000 | 64.3  | 71.6  | 74.7  | 75.5  | 76.3  | 80.0  | 77.1  | 78.8  | 82.6  | 91.1  | 88.8  | 83.2  | 73.0  | 156.7 |

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OF POOR QUALITY

OASPL 110.2 111.5 112.2 112.3 112.5 114.0 115.3 117.0 119.2 125.9 128.0 128.6 127.0 165.1  
PNL 123.8 124.9 125.2 125.3 125.4 126.8 127.8 129.8 131.8 138.1 139.6 139.0 136.7  
PNLT 125.1 126.0 126.3 125.3 125.4 126.8 129.1 129.8 131.8 138.1 139.6 139.0 136.7  
DBA 110.5 111.4 111.9 111.8 111.8 113.3 114.2 116.5 119.0 125.5 127.4 127.7 125.5

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|          |                |           |            |            |                |            |         |                |         |              |            |              |
|----------|----------------|-----------|------------|------------|----------------|------------|---------|----------------|---------|--------------|------------|--------------|
| VEHICLE  | = ADH190       | TEST DATE | = 08-10-82 | LOCAT      | = C41 ANECH C4 | CONFIG     | = 5     | MODEL          | = AX    | FLTVEL       | = 0. FPS   |              |
| IAPLHA   | = SB59         | TEGA      | = NO       | PWL AREA   | = FULL SPHERE  | TAMB F     | = 72.00 | PAMB HG        | = 29.50 | RELHUM       | = 90.7 PCT |              |
| WIND DIR | =              | WIND VEL  | =          | EXT DIST   | = 40.0 FT      | EXT CONFIG | = ARC   | MIKE HT        | =       | NBFR         | =          |              |
| FNIN1    | =              | LBS       | XNL        | =          | RPM            | XNH        | =       | RPM            | V8      | = 1644.3 FPS | AE8        | = 4.0 SQ IN  |
| FNRMB    | =              | LBS       | XNLR       | =          | RPM            | XNHR       | =       | RPM            | V18     | = 2410.9 FPS | AE18       | = 20.2 SQ IN |
| RUNPT    | = 82F-ZER-0511 | TAPE      | = X0511C   | TEST PT NO | = 0511         | NC         | = AE036 | COND FAN SPEED | =       | RPM          |            |              |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0511 X0511F

ANGLFS MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.8  | 84.6  | 81.8  | 82.3  | 82.7  | 82.1  | 81.2  | 85.1  | 85.8  | 86.4  | 92.5  | 93.2  | 94.1  | 129.2 |
| 63    | 92.4  | 91.5  | 88.0  | 89.8  | 91.6  | 90.0  | 89.6  | 91.8  | 92.0  | 91.3  | 98.9  | 99.4  | 99.3  | 135.4 |
| 80    | 89.2  | 93.2  | 89.7  | 90.3  | 90.9  | 93.5  | 92.6  | 92.3  | 92.5  | 94.6  | 94.9  | 97.4  | 100.0 | 135.5 |
| 100   | 89.2  | 96.0  | 91.5  | 92.7  | 93.9  | 94.8  | 95.2  | 96.6  | 94.3  | 98.6  | 99.0  | 102.4 | 105.1 | 139.1 |
| 125   | 85.4  | 89.7  | 92.2  | 93.4  | 94.6  | 95.2  | 95.3  | 96.0  | 94.5  | 100.5 | 103.7 | 107.1 | 108.5 | 141.6 |
| 160   | 86.4  | 85.7  | 90.2  | 89.9  | 89.6  | 91.0  | 97.9  | 93.3  | 94.0  | 101.0 | 105.4 | 108.1 | 110.8 | 142.7 |
| 200   | 88.3  | 88.1  | 88.9  | 90.3  | 91.8  | 94.1  | 96.0  | 96.2  | 98.9  | 102.4 | 106.3 | 110.0 | 113.2 | 144.6 |
| 250   | 87.5  | 91.1  | 91.3  | 91.5  | 91.7  | 93.6  | 96.2  | 98.6  | 99.3  | 107.6 | 112.3 | 114.7 | 114.9 | 148.3 |
| 315   | 87.9  | 90.7  | 90.7  | 92.1  | 93.6  | 96.4  | 99.1  | 98.2  | 101.7 | 110.3 | 113.1 | 115.8 | 116.0 | 149.6 |
| 400   | 88.0  | 91.5  | 92.0  | 92.7  | 93.4  | 95.0  | 106.7 | 99.3  | 102.5 | 112.6 | 115.5 | 117.4 | 115.3 | 151.3 |
| 500   | 89.7  | 91.5  | 92.6  | 93.5  | 94.4  | 96.5  | 100.1 | 104.3 | 114.4 | 117.3 | 117.7 | 116.3 | 152.2 |       |
| 630   | 90.2  | 93.0  | 94.5  | 95.0  | 95.6  | 98.0  | 98.4  | 101.5 | 104.5 | 115.5 | 117.7 | 118.6 | 117.0 | 152.9 |
| 800   | 93.2  | 94.5  | 95.5  | 95.9  | 96.4  | 98.5  | 99.9  | 103.0 | 106.5 | 115.3 | 118.7 | 119.4 | 117.3 | 153.6 |
| 1000  | 99.2  | 99.2  | 99.2  | 98.8  | 98.4  | 99.7  | 100.4 | 103.3 | 107.2 | 115.1 | 117.9 | 119.6 | 117.8 | 153.5 |
| 1250  | 97.8  | 102.3 | 102.8 | 102.3 | 101.7 | 102.8 | 103.2 | 104.4 | 107.6 | 115.1 | 117.3 | 118.9 | 116.7 | 153.2 |
| 1600  | 98.0  | 98.7  | 99.6  | 100.2 | 100.7 | 102.1 | 103.2 | 105.2 | 108.3 | 114.2 | 117.5 | 118.0 | 115.2 | 152.7 |
| 2000  | 102.8 | 101.2 | 100.3 | 99.7  | 99.1  | 100.9 | 102.9 | 105.0 | 108.3 | 114.1 | 116.4 | 116.2 | 113.0 | 151.7 |
| 2500  | 103.5 | 103.8 | 103.6 | 102.5 | 101.4 | 102.1 | 102.5 | 106.1 | 108.5 | 115.0 | 115.8 | 114.6 | 110.8 | 151.6 |
| 3150  | 100.1 | 101.4 | 102.4 | 102.4 | 102.3 | 103.1 | 103.7 | 105.7 | 107.5 | 114.1 | 115.4 | 112.5 | 109.6 | 150.8 |
| 4000  | 96.5  | 98.2  | 100.1 | 101.1 | 102.2 | 103.4 | 102.8 | 106.1 | 107.7 | 112.9 | 112.4 | 110.5 | 107.7 | 149.3 |
| 5000  | 96.0  | 98.0  | 98.6  | 99.4  | 100.1 | 102.8 | 103.7 | 105.7 | 108.0 | 112.1 | 112.4 | 109.5 | 106.7 | 149.0 |
| 6300  | 94.7  | 97.2  | 98.0  | 99.0  | 100.0 | 101.4 | 103.0 | 105.7 | 106.9 | 110.8 | 109.8 | 107.6 | 104.6 | 147.8 |
| 8000  | 93.8  | 96.8  | 98.7  | 98.5  | 98.3  | 101.1 | 101.6 | 105.4 | 105.6 | 109.4 | 108.4 | 105.7 | 103.1 | 147.0 |
| 10000 | 93.5  | 97.1  | 99.4  | 99.1  | 98.7  | 101.5 | 101.7 | 104.1 | 105.3 | 109.3 | 107.1 | 105.6 | 102.4 | 147.2 |
| 12500 | 93.1  | 96.4  | 99.5  | 99.2  | 99.0  | 100.8 | 100.3 | 102.7 | 103.6 | 106.4 | 105.5 | 104.1 | 101.6 | 146.5 |
| 16000 | 90.5  | 95.6  | 96.7  | 97.9  | 99.0  | 99.7  | 99.0  | 100.9 | 100.9 | 104.2 | 103.4 | 101.6 | 99.4  | 145.9 |
| 20000 | 88.1  | 92.1  | 94.3  | 95.5  | 96.7  | 98.5  | 97.5  | 97.9  | 98.7  | 100.6 | 101.4 | 99.2  | 97.6  | 145.3 |
| 25000 | 85.4  | 89.7  | 92.5  | 93.8  | 95.1  | 96.9  | 96.3  | 95.8  | 97.5  | 99.5  | 98.5  | 96.7  | 93.2  | 145.9 |
| 31500 | 78.8  | 84.3  | 86.8  | 88.2  | 89.6  | 92.3  | 91.0  | 91.3  | 92.8  | 95.7  | 94.8  | 92.1  | 87.2  | 144.4 |
| 40000 | 75.6  | 81.1  | 84.4  | 85.8  | 87.2  | 89.3  | 88.4  | 88.5  | 90.2  | 94.0  | 93.4  | 89.6  | 83.8  | 146.1 |
| 50000 | 72.1  | 77.7  | 80.8  | 82.5  | 84.2  | 86.7  | 84.9  | 84.9  | 88.2  | 93.7  | 92.1  | 89.2  | 80.4  | 148.8 |
| 63000 | 68.3  | 74.6  | 77.7  | 79.3  | 81.0  | 83.4  | 81.3  | 82.8  | 85.9  | 92.6  | 91.2  | 87.1  | 78.6  | 152.3 |
| 80000 | 64.3  | 71.6  | 74.7  | 75.5  | 76.3  | 80.0  | 77.1  | 78.8  | 82.6  | 91.1  | 88.8  | 83.2  | 73.0  | 156.7 |
| CASPL | 110.2 | 111.5 | 112.2 | 112.3 | 112.5 | 114.0 | 115.3 | 117.0 | 119.2 | 125.9 | 128.0 | 128.6 | 127.0 | 165.1 |
| PNL   | 123.8 | 124.9 | 125.2 | 125.3 | 125.4 | 126.8 | 127.8 | 129.8 | 131.8 | 138.1 | 139.6 | 139.0 | 136.7 |       |
| PNLT  | 125.1 | 126.0 | 126.3 | 125.3 | 125.4 | 126.8 | 129.1 | 129.8 | 131.8 | 138.1 | 139.6 | 139.0 | 136.7 |       |
| DBA   | 185.5 | 192.6 | 195.6 | 196.6 | 197.7 | 201.0 | 198.4 | 199.9 | 203.6 | 211.7 | 209.6 | 204.3 | 194.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/MAS3-23166

|                 |                      |                        |                      |                   |                   |
|-----------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH190 | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MUKE HT =         | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1644.3 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2418.9 FPS | AE18 = 20.2 SQ IN |                   |

RUNPT = 82F-ZER-0511 TAPE = X0511F TEST PT NO = 0511 NC = AR030 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0511 X05111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 66.1 | 71.2 | 72.8 | 74.2 | 75.3  | 77.1  | 88.6  | 80.8  | 83.3  | 92.3  | 93.7  | 93.4  | 88.5 | 168.9 |
| 63    | 67.9 | 71.2 | 73.3 | 75.0 | 76.3  | 78.6  | 80.3  | 81.8  | 85.1  | 94.0  | 95.4  | 93.6  | 88.9 | 169.8 |
| 80    | 68.3 | 72.6 | 75.2 | 76.5 | 77.5  | 80.0  | 80.2  | 82.9  | 85.2  | 95.2  | 95.8  | 94.5  | 89.3 | 170.5 |
| 100   | 71.2 | 74.1 | 76.2 | 77.3 | 78.2  | 80.4  | 81.7  | 84.4  | 87.2  | 94.9  | 96.7  | 95.1  | 89.6 | 171.2 |
| 125   | 77.1 | 78.7 | 79.8 | 80.1 | 80.1  | 81.6  | 82.1  | 84.6  | 87.8  | 94.5  | 95.8  | 95.2  | 89.9 | 171.1 |
| 160   | 75.5 | 81.6 | 83.3 | 83.4 | 83.3  | 84.6  | 84.8  | 85.5  | 88.0  | 94.5  | 95.0  | 94.3  | 88.4 | 170.8 |
| 200   | 75.5 | 77.8 | 79.9 | 81.2 | 82.2  | 83.7  | 84.6  | 86.3  | 88.6  | 93.3  | 95.0  | 93.0  | 86.5 | 170.3 |
| 250   | 79.9 | 80.0 | 80.4 | 80.5 | 80.3  | 82.3  | 84.2  | 85.8  | 88.4  | 93.0  | 93.5  | 90.8  | 83.6 | 169.3 |
| 315   | 80.2 | 82.3 | 83.3 | 83.0 | 82.4  | 83.2  | 83.5  | 86.6  | 88.2  | 93.5  | 92.5  | 88.7  | 80.6 | 169.2 |
| 400   | 76.3 | 79.5 | 81.8 | 82.6 | 83.0  | 83.9  | 84.4  | 85.9  | 86.9  | 92.2  | 91.6  | 85.9  | 78.3 | 168.4 |
| 500   | 72.3 | 75.9 | 79.1 | 81.0 | 82.6  | 84.0  | 83.2  | 86.0  | 86.8  | 90.6  | 88.1  | 83.2  | 75.5 | 167.0 |
| 630   | 71.3 | 75.3 | 77.3 | 79.0 | 80.2  | 83.1  | 83.8  | 85.4  | 86.7  | 89.4  | 87.7  | 81.6  | 73.5 | 166.6 |
| 800   | 69.4 | 74.2 | 76.4 | 78.4 | 79.9  | 81.5  | 82.9  | 85.0  | 85.3  | 87.7  | 84.6  | 79.0  | 70.2 | 165.4 |
| 1000  | 68.1 | 73.5 | 76.8 | 77.7 | 78.1  | 81.1  | 81.3  | 84.6  | 83.8  | 86.0  | 82.8  | 76.4  | 67.5 | 164.7 |
| 1250  | 67.3 | 73.4 | 77.4 | 78.1 | 78.3  | 81.3  | 81.3  | 83.2  | 83.2  | 85.6  | 80.9  | 75.5  | 65.4 | 164.8 |
| 1600  | 66.0 | 72.1 | 77.0 | 77.9 | 78.4  | 80.3  | 79.7  | 81.4  | 81.1  | 82.1  | 78.4  | 72.6  | 62.2 | 164.1 |
| 2000  | 62.4 | 70.7 | 73.9 | 76.3 | 78.2  | 79.1  | 78.2  | 79.3  | 78.0  | 79.3  | 75.4  | 68.5  | 57.0 | 163.6 |
| 2500  | 58.3 | 66.0 | 70.5 | 73.2 | 75.3  | 77.3  | 76.1  | 75.6  | 74.9  | 74.5  | 71.5  | 63.3  | 50.3 | 162.9 |
| 3150  | 52.2 | 61.1 | 66.9 | 70.0 | 72.3  | 74.5  | 73.6  | 72.0  | 71.9  | 71.0  | 65.3  | 55.8  | 37.5 | 163.5 |
| 4000  | 39.3 | 51.0 | 57.4 | 61.2 | 63.9  | 66.9  | 65.2  | 64.2  | 63.4  | 62.4  | 56.4  | 42.3  | 17.0 | 162.0 |
| 5000  | 26.4 | 40.3 | 48.7 | 53.3 | 56.4  | 59.1  | 57.6  | 56.0  | 54.5  | 53.2  | 44.2  | 26.1  |      | 163.8 |
| 6300  | 5.2  | 22.7 | 33.1 | 39.3 | 43.4  | 46.7  | 44.1  | 41.6  | 40.5  | 38.6  | 25.1  | 1.5   |      | 166.4 |
| 8000  |      |      | 8.6  | 16.8 | 22.0  | 25.6  | 22.4  | 20.3  | 16.8  | 12.7  |       |       |      | 169.9 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 174.3 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| OASPL | 86.6 | 89.5 | 91.4 | 92.1 | 92.7  | 94.4  | 95.7  | 96.9  | 98.5  | 104.5 | 105.0 | 103.3 | 97.7 | 182.4 |
| PNL   | 91.4 | 95.1 | 97.7 | 99.2 | 100.4 | 102.2 | 102.1 | 103.3 | 103.9 | 108.3 | 107.3 | 104.1 | 97.2 |       |
| PNLT  | 92.0 | 95.7 | 98.3 | 99.2 | 100.4 | 102.2 | 102.1 | 103.3 | 104.4 | 108.9 | 107.3 | 104.1 | 97.2 |       |
| DBA   | 80.1 | 83.9 | 86.7 | 87.9 | 88.9  | 90.8  | 90.9  | 92.8  | 93.3  | 96.6  | 95.0  | 91.1  | 83.9 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH190 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1644.3 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2418.0 FPS AE18 = 20.2 SQ IN  
 RUNPT = 82F-ZER-0511 TAPE = X05111 TEST PT NO = 0511 NC = AE053 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0512 X0512C  
BACKGROUND 82F-400-D100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.5 | 86.1 | 81.8 | 81.9 | 81.7 | 81.6  | 81.2  | 83.4  | 84.6  | 86.7  | 91.5  | 91.2  | 100.6 | 130.8 |
| 63    | 91.9 | 92.2 | 88.0 | 89.5 | 88.4 | 89.0  | 88.6  | 87.5  | 88.2  | 93.5  | 93.7  | 92.9  | 100.0 | 133.6 |
| 80    | 88.4 | 93.5 | 89.2 | 90.0 | 90.4 | 92.5  | 92.6  | 91.5  | 91.7  | 93.8  | 94.2  | 96.1  | 102.0 | 135.4 |
| 100   | 87.5 | 93.5 | 89.0 | 88.8 | 91.4 | 92.0  | 92.2  | 94.3  | 91.5  | 95.6  | 96.0  | 100.2 | 105.3 | 137.2 |
| 125   | 85.4 | 88.2 | 90.2 | 90.5 | 92.3 | 93.0  | 92.8  | 93.0  | 91.5  | 96.5  | 101.2 | 104.8 | 107.5 | 139.5 |
| 160   | 84.9 | 81.7 | 87.7 | 85.8 | 87.6 | 88.7  | 94.9  | 89.8  | 90.7  | 98.0  | 101.9 | 105.6 | 109.3 | 140.4 |
| 200   | 86.6 | 84.9 | 84.9 | 84.4 | 87.0 | 89.9  | 91.8  | 92.7  | 94.9  | 98.2  | 101.6 | 107.0 | 110.4 | 141.3 |
| 250   | 81.8 | 85.8 | 85.6 | 86.4 | 87.2 | 89.6  | 93.2  | 94.1  | 94.8  | 103.4 | 107.5 | 110.7 | 111.6 | 144.3 |
| 315   | 84.9 | 85.4 | 85.7 | 86.5 | 88.6 | 90.9  | 94.3  | 93.5  | 96.7  | 106.2 | 109.4 | 112.6 | 112.0 | 145.8 |
| 400   | 83.2 | 86.3 | 87.3 | 86.1 | 88.4 | 90.3  | 101.2 | 94.6  | 97.8  | 108.4 | 111.2 | 113.4 | 111.1 | 146.9 |
| 500   | 85.0 | 86.3 | 87.6 | 87.8 | 89.4 | 91.5  | 93.4  | 95.3  | 98.8  | 109.9 | 113.3 | 113.9 | 108.8 | 147.7 |
| 630   | 84.4 | 87.5 | 88.7 | 88.3 | 89.6 | 92.2  | 93.6  | 96.5  | 100.0 | 111.3 | 113.4 | 113.4 | 106.3 | 147.8 |
| 800   | 85.9 | 87.2 | 89.5 | 88.8 | 90.9 | 93.2  | 94.6  | 98.5  | 101.7 | 111.1 | 114.0 | 111.6 | 102.5 | 147.6 |
| 1000  | 88.9 | 89.0 | 90.5 | 90.0 | 91.9 | 94.0  | 95.6  | 99.0  | 102.7 | 110.8 | 112.4 | 110.1 | 100.3 | 146.7 |
| 1250  | 89.0 | 92.3 | 93.1 | 91.7 | 92.4 | 95.1  | 96.7  | 100.1 | 103.3 | 110.6 | 111.3 | 107.2 | 98.5  | 145.9 |
| 1600  | 93.8 | 92.9 | 93.8 | 92.2 | 94.5 | 96.3  | 97.7  | 100.5 | 104.3 | 110.4 | 110.5 | 104.0 | 97.2  | 145.5 |
| 2000  | 96.8 | 97.2 | 96.8 | 94.5 | 94.1 | 96.2  | 97.7  | 101.5 | 103.8 | 109.6 | 109.1 | 101.7 | 95.5  | 144.9 |
| 2500  | 96.5 | 98.5 | 99.3 | 97.8 | 97.2 | 97.1  | 98.2  | 102.4 | 105.0 | 110.8 | 108.5 | 101.1 | 94.4  | 145.6 |
| 3150  | 92.9 | 95.2 | 97.7 | 97.0 | 98.3 | 99.9  | 99.5  | 102.0 | 103.8 | 109.4 | 108.1 | 100.3 | 94.1  | 144.9 |
| 4000  | 91.3 | 92.0 | 94.3 | 94.5 | 96.9 | 99.4  | 99.3  | 102.1 | 104.5 | 108.7 | 105.7 | 99.0  | 93.0  | 144.1 |
| 5000  | 91.3 | 93.0 | 94.7 | 93.3 | 95.4 | 98.6  | 100.0 | 102.5 | 104.8 | 108.1 | 105.2 | 98.7  | 93.0  | 144.0 |
| 6300  | 92.2 | 93.5 | 94.3 | 93.7 | 95.8 | 97.2  | 99.0  | 102.9 | 103.9 | 107.1 | 104.1 | 97.7  | 91.7  | 143.5 |
| 8000  | 93.1 | 95.9 | 95.0 | 94.0 | 94.6 | 97.5  | 98.6  | 102.5 | 103.9 | 106.5 | 103.3 | 96.3  | 90.9  | 143.6 |
| 10000 | 95.1 | 97.8 | 99.1 | 97.9 | 97.3 | 99.3  | 99.6  | 102.5 | 104.2 | 107.5 | 103.0 | 97.2  | 91.0  | 145.0 |
| 12500 | 95.5 | 97.3 | 99.4 | 99.6 | 99.0 | 100.5 | 98.8  | 100.9 | 103.8 | 105.9 | 102.4 | 97.0  | 91.8  | 145.4 |
| 16000 | 91.8 | 95.9 | 97.3 | 97.4 | 98.0 | 99.3  | 98.1  | 100.2 | 101.5 | 103.8 | 100.8 | 96.1  | 91.1  | 145.1 |
| 20000 | 90.3 | 92.6 | 94.3 | 95.6 | 96.1 | 97.9  | 96.7  | 96.8  | 99.4  | 100.7 | 98.9  | 94.6  | 89.8  | 144.5 |
| 25000 | 87.5 | 90.9 | 93.2 | 93.3 | 94.7 | 96.8  | 96.5  | 96.5  | 98.2  | 99.1  | 96.2  | 92.8  | 86.8  | 145.6 |
| 31500 | 81.1 | 86.0 | 87.3 | 88.8 | 90.0 | 92.6  | 91.4  | 91.5  | 93.3  | 94.3  | 90.8  | 87.5  | 81.5  | 143.8 |
| 40000 | 78.4 | 82.7 | 84.7 | 85.6 | 87.3 | 89.7  | 88.8  | 89.4  | 91.2  | 91.7  | 87.7  | 84.2  | 77.4  | 145.2 |
| 50000 | 74.6 | 78.9 | 81.5 | 81.8 | 84.2 | 87.0  | 85.4  | 86.0  | 87.9  | 89.1  | 84.7  | 79.9  | 73.5  | 146.4 |
| 63000 | 70.6 | 75.4 | 77.2 | 78.0 | 80.3 | 83.2  | 80.7  | 82.5  | 85.6  | 87.5  | 82.6  | 75.5  | 68.4  | 148.8 |
| 80000 | 64.1 | 71.2 | 72.0 | 71.7 | 74.4 | 78.2  | 75.1  | 77.3  | 80.7  | 86.7  | 77.1  | 68.7  | 59.8  | 152.1 |

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GASPL 105.8 107.7 108.6 108.0 108.8 110.6 111.5 113.7 116.0 121.9 122.6 121.8 119.7 160.6  
PNL 118.2 120.0 120.8 119.8 121.0 122.8 123.6 126.1 128.3 134.0 133.4 130.0 126.5  
PNLT 118.9 120.0 120.8 120.3 121.0 122.8 124.9 126.1 128.3 134.0 133.4 130.0 126.5  
DBA 104.6 106.1 107.0 105.9 106.8 108.7 109.8 112.9 115.3 121.3 121.5 119.0 113.7

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                  |                   |
|----------------------|----------------------|------------------------|----------------------|------------------|-------------------|
| VEHICLE = ADH199     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX       | FLTVEL = 400. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00       | PAMB HG = 29.50  | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =        | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1646.1 FPS  | AE8 =            | 4.0 SQ IN         |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2412.4 FPS | AE18 =           | 20.2 SQ IN        |
| RUNPT = 82F-400-0512 | TAPE = X0512C        | TEST PT NO = 0512      | NC = AE056           | CORR FAN SPEED = | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0512 X0512F

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                       | 40.                  | 50.   | 60.   | 70.   | 80.                    | 90.   | 100.  | 110.  | 120.             | 130.       | 140.  | 150.  | 160.            | PWL   |
|-----------------------------------------------------------------------------------------------------------------------|----------------------|-------|-------|-------|------------------------|-------|-------|-------|------------------|------------|-------|-------|-----------------|-------|
| FREQ                                                                                                                  |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 50                                                                                                                    |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 63                                                                                                                    |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 80                                                                                                                    |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 100                                                                                                                   |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 125                                                                                                                   |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 160                                                                                                                   |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 200                                                                                                                   |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| 250                                                                                                                   | 89.5                 | 92.2  | 90.4  | 89.6  | 88.8                   | 89.6  | 91.3  | 90.5  | 93.2             | 101.9      | 104.5 | 108.1 | 109.4           | 142.0 |
| 315                                                                                                                   | 89.5                 | 92.1  | 90.4  | 89.6  | 90.4                   | 91.1  | 93.0  | 90.7  | 94.5             | 104.3      | 106.8 | 109.7 | 109.9           | 143.5 |
| 400                                                                                                                   | 92.6                 | 91.8  | 90.6  | 89.9  | 90.3                   | 90.5  | 99.9  | 91.8  | 96.8             | 107.2      | 110.3 | 112.2 | 110.4           | 145.9 |
| 500                                                                                                                   | 90.8                 | 92.6  | 92.2  | 89.5  | 91.3                   | 91.9  | 92.7  | 93.5  | 98.7             | 109.6      | 111.8 | 113.6 | 111.0           | 147.3 |
| 630                                                                                                                   | 92.7                 | 92.7  | 92.5  | 91.3  | 91.6                   | 92.6  | 93.0  | 94.9  | 100.8            | 109.9      | 113.3 | 113.7 | 110.6           | 147.9 |
| 800                                                                                                                   | 92.1                 | 93.9  | 93.7  | 91.8  | 92.9                   | 93.8  | 94.0  | 96.9  | 102.4            | 110.4      | 112.7 | 113.7 | 111.0           | 147.9 |
| 1000                                                                                                                  | 93.6                 | 93.7  | 94.6  | 92.4  | 94.0                   | 94.6  | 95.2  | 97.6  | 102.7            | 109.9      | 111.3 | 110.6 | 109.3           | 146.5 |
| 1250                                                                                                                  | 96.2                 | 95.2  | 95.4  | 93.6  | 94.6                   | 95.9  | 96.2  | 98.5  | 103.7            | 109.6      | 110.4 | 107.3 | 108.1           | 145.7 |
| 1600                                                                                                                  | 95.6                 | 98.1  | 97.8  | 95.2  | 96.6                   | 97.4  | 97.3  | 98.9  | 103.3            | 108.8      | 109.0 | 105.1 | 106.4           | 145.0 |
| 2000                                                                                                                  | 99.2                 | 97.8  | 97.9  | 95.3  | 96.2                   | 97.5  | 97.5  | 100.1 | 104.6            | 110.0      | 108.3 | 104.2 | 104.9           | 145.3 |
| 2500                                                                                                                  | 103.2                | 102.5 | 101.0 | 97.5  | 99.6                   | 98.7  | 98.4  | 101.2 | 104.0            | 109.3      | 108.7 | 104.3 | 105.7           | 145.9 |
| 3150                                                                                                                  | 101.7                | 103.1 | 103.1 | 100.9 | 101.6                  | 101.9 | 100.1 | 101.3 | 105.3            | 109.0      | 106.5 | 103.0 | 104.4           | 146.0 |
| 4000                                                                                                                  | 100.4                | 101.8 | 103.3 | 101.4 | 101.2                  | 102.0 | 100.5 | 102.0 | 105.6            | 108.6      | 106.1 | 102.9 | 104.6           | 146.0 |
| 5000                                                                                                                  | 101.6                | 101.0 | 101.8 | 100.3 | 99.4                   | 101.6 | 101.4 | 102.6 | 104.9            | 107.6      | 105.1 | 101.8 | 103.2           | 145.4 |
| 6300                                                                                                                  | 98.7                 | 99.7  | 100.5 | 98.2  | 99.8                   | 100.2 | 100.6 | 103.0 | 105.1            | 107.2      | 104.4 | 100.5 | 102.5           | 145.1 |
| 8000                                                                                                                  | 99.5                 | 100.1 | 100.0 | 98.4  | 98.6                   | 100.5 | 100.3 | 102.7 | 105.3            | 108.2      | 104.0 | 101.2 | 102.0           | 145.6 |
| 10000                                                                                                                 | 99.6                 | 101.9 | 100.2 | 98.3  | 101.3                  | 102.3 | 101.1 | 102.6 | 105.9            | 107.7      | 104.8 | 102.8 | 105.2           | 146.9 |
| 12500                                                                                                                 | 101.5                | 103.6 | 104.1 | 102.0 | 103.0                  | 103.5 | 100.8 | 101.6 | 104.7            | 106.8      | 104.5 | 103.2 | 105.7           | 148.1 |
| 16000                                                                                                                 | 101.8                | 102.9 | 104.1 | 103.4 | 102.1                  | 102.3 | 100.3 | 101.3 | 103.7            | 104.8      | 103.6 | 102.6 | 105.0           | 148.8 |
| 20000                                                                                                                 | 97.7                 | 101.1 | 101.6 | 100.8 | 100.2                  | 100.9 | 99.1  | 98.4  | 103.0            | 103.7      | 101.6 | 101.5 | 102.9           | 148.7 |
| 25000                                                                                                                 | 95.6                 | 97.2  | 98.0  | 98.3  | 98.8                   | 99.8  | 98.8  | 98.0  | 98.9             | 99.8       | 96.9  | 97.1  | 98.5            | 148.4 |
| 31500                                                                                                                 | 92.0                 | 94.7  | 96.1  | 95.3  | 94.6                   | 95.6  | 93.8  | 93.0  | 97.3             | 97.6       | 94.2  | 94.4  | 95.3            | 148.3 |
| 40000                                                                                                                 | 87.6                 | 91.3  | 91.1  | 91.0  | 91.9                   | 92.7  | 91.1  | 90.7  | 93.8             | 94.6       | 90.8  | 89.4  | 90.9            | 148.9 |
| 50000                                                                                                                 | 84.5                 | 87.5  | 88.1  | 87.4  | 88.8                   | 90.0  | 87.5  | 86.8  | 91.8             | 93.2       | 88.6  | 84.4  | 84.3            | 150.4 |
| 63000                                                                                                                 | 79.7                 | 82.8  | 84.0  | 82.7  | 84.9                   | 86.2  | 82.5  | 82.8  | 88.3             | 93.8       | 84.4  | 79.1  | 77.0            | 153.0 |
| 80000                                                                                                                 | 74.2                 | 77.8  | 78.1  | 77.4  | 79.0                   | 81.2  | 76.8  | 77.5  | 78.4             | 84.0       | 74.6  | 69.3  | 67.2            | 152.3 |
| GASPL                                                                                                                 | 111.9                | 112.9 | 113.2 | 111.5 | 112.0                  | 112.7 | 112.0 | 113.2 | 116.6            | 121.3      | 121.7 | 121.6 | 120.7           | 162.0 |
| PNL                                                                                                                   | 123.8                | 124.5 | 124.5 | 122.5 | 123.1                  | 123.8 | 123.2 | 124.7 | 128.3            | 132.8      | 132.0 | 129.5 | 130.1           |       |
| PNLT                                                                                                                  | 123.8                | 124.5 | 124.5 | 122.5 | 123.1                  | 123.8 | 124.4 | 124.7 | 128.3            | 132.8      | 132.0 | 129.5 | 130.1           |       |
| DBA                                                                                                                   | 196.0                | 199.4 | 199.9 | 199.0 | 200.8                  | 202.7 | 198.6 | 199.1 | 201.9            | 207.1      | 198.2 | 193.1 | 191.7           |       |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166                                                             |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |
| VEHICL = ADH199                                                                                                       | TEST DATE = 08-10-82 |       |       |       | LOCAT = C41 ANECH CH   |       |       |       | CONFIG = 5       |            |       |       | MODEL = AX      |       |
| IAPLHA = SB59                                                                                                         | IEGA = NO            |       |       |       | PWL AREA = FULL SPHERE |       |       |       | TAMB F = 74.00   |            |       |       | PAMB HG = 29.50 |       |
| WIND DIR =                                                                                                            | DEG WIND VEL =       |       |       |       | MPH EXT DIST = 40.0 FT |       |       |       | EXT CONFIG = ARC |            |       |       | MIKE HT =       |       |
| FNIN1 =                                                                                                               | LBS                  | XNL   | =     | RPM   | XNH                    | =     | RPM   | V8    | =                | 1646.1 FPS | AE8   | =     | 4.0 SQ IN       |       |
| FNRAMB =                                                                                                              | LBS                  | XNLR  | =     | RPM   | XNHR                   | =     | RPM   | V18   | =                | 2412.4 FPS | AE18  | =     | 20.2 SQ IN      |       |
| RUNPT = 82F-400-0512 TAPE = X0512F TEST PT NO = 0512 NC = AE056 CORR FAN SPEED = RPM                                  |                      |       |       |       |                        |       |       |       |                  |            |       |       |                 |       |

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58-88112

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0512 X05121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.7 | 71.5 | 71.4  | 71.3  | 72.1  | 72.6  | 81.8  | 73.3  | 77.6  | 86.9  | 88.5  | 88.1 | 83.0 | 163.5 |
| 63    | 69.0 | 72.3 | 73.0  | 70.9  | 73.2  | 73.9  | 74.6  | 75.0  | 79.5  | 89.3  | 90.0  | 89.6 | 83.6 | 164.9 |
| 80    | 70.8 | 72.3 | 73.3  | 72.7  | 73.4  | 74.6  | 74.8  | 76.3  | 81.5  | 89.5  | 91.4  | 89.6 | 83.1 | 165.5 |
| 100   | 70.1 | 73.5 | 74.4  | 73.2  | 74.7  | 75.7  | 75.8  | 78.2  | 83.0  | 89.9  | 90.7  | 89.4 | 83.4 | 165.6 |
| 125   | 71.5 | 73.2 | 75.1  | 73.7  | 75.7  | 76.5  | 76.9  | 78.9  | 83.3  | 89.4  | 89.2  | 86.2 | 81.3 | 164.2 |
| 160   | 73.9 | 74.5 | 75.9  | 74.8  | 76.2  | 77.6  | 77.8  | 79.7  | 84.1  | 88.9  | 88.1  | 82.7 | 79.8 | 163.4 |
| 200   | 73.1 | 77.2 | 78.0  | 76.2  | 78.0  | 79.0  | 78.8  | 79.9  | 83.5  | 87.9  | 86.5  | 80.1 | 77.6 | 162.6 |
| 250   | 76.3 | 76.6 | 77.9  | 76.1  | 77.4  | 78.8  | 78.8  | 80.9  | 84.6  | 88.9  | 85.4  | 78.8 | 75.5 | 162.9 |
| 315   | 79.9 | 81.0 | 80.7  | 78.1  | 80.6  | 79.8  | 79.4  | 81.7  | 83.7  | 87.8  | 85.4  | 78.4 | 75.5 | 163.5 |
| 400   | 77.9 | 81.1 | 82.5  | 81.1  | 82.2  | 82.7  | 80.8  | 81.5  | 84.6  | 87.1  | 82.7  | 76.4 | 73.1 | 163.6 |
| 500   | 76.2 | 79.5 | 82.3  | 81.3  | 81.6  | 82.5  | 80.9  | 81.9  | 84.6  | 86.3  | 81.8  | 75.7 | 72.4 | 163.6 |
| 630   | 76.9 | 78.3 | 80.5  | 79.9  | 79.5  | 81.9  | 81.5  | 82.2  | 83.6  | 84.9  | 80.3  | 73.9 | 69.9 | 163.0 |
| 800   | 73.5 | 76.7 | 78.9  | 77.5  | 79.7  | 80.3  | 80.5  | 82.4  | 83.5  | 84.1  | 79.1  | 71.9 | 68.1 | 162.7 |
| 1000  | 73.8 | 76.7 | 78.2  | 77.6  | 78.4  | 80.4  | 80.1  | 81.9  | 83.5  | 84.8  | 78.3  | 71.9 | 66.4 | 163.3 |
| 1250  | 73.4 | 78.2 | 78.2  | 77.4  | 80.9  | 82.1  | 80.8  | 81.6  | 83.9  | 84.0  | 78.6  | 72.7 | 68.2 | 164.5 |
| 1600  | 74.4 | 79.3 | 81.6  | 80.7  | 82.3  | 83.0  | 80.2  | 80.3  | 82.3  | 82.5  | 77.4  | 71.8 | 66.3 | 165.7 |
| 2000  | 73.8 | 78.0 | 81.3  | 81.8  | 81.2  | 81.7  | 79.5  | 79.7  | 80.8  | 79.9  | 75.6  | 69.6 | 62.6 | 166.4 |
| 2500  | 67.9 | 75.0 | 77.9  | 78.5  | 78.8  | 79.8  | 77.7  | 76.1  | 79.3  | 77.6  | 71.7  | 65.6 | 55.6 | 166.3 |
| 3150  | 62.4 | 68.7 | 72.3  | 74.5  | 76.0  | 77.4  | 76.1  | 74.2  | 73.3  | 71.2  | 63.7  | 56.2 | 42.8 | 166.0 |
| 4000  | 52.6 | 61.4 | 66.7  | 68.2  | 68.9  | 70.3  | 68.0  | 65.9  | 67.9  | 64.3  | 54.8  | 44.6 | 25.1 | 165.9 |
| 5000  | 38.4 | 50.4 | 55.4  | 58.5  | 61.2  | 62.5  | 60.3  | 58.2  | 58.2  | 53.8  | 41.6  | 25.9 |      | 166.5 |
| 6300  | 17.5 | 32.5 | 40.3  | 44.1  | 48.0  | 49.9  | 46.7  | 43.6  | 44.1  | 38.1  | 21.6  |      |      | 168.0 |
| 8000  |      | 2.9  | 14.9  | 20.1  | 26.0  | 28.4  | 23.5  | 20.3  | 19.2  | 13.9  |       |      |      | 170.7 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |      |      | 169.9 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| OASPL | 87.2 | 89.9 | 91.6  | 90.7  | 91.8  | 92.7  | 92.1  | 92.8  | 95.6  | 99.7  | 98.8  | 96.4 | 91.1 | 179.5 |
| PNL   | 94.7 | 98.7 | 101.2 | 101.2 | 101.8 | 102.6 | 101.2 | 101.4 | 103.5 | 104.8 | 101.3 | 97.2 | 91.6 |       |
| PNLT  | 94.7 | 99.3 | 101.8 | 101.7 | 101.8 | 102.6 | 101.7 | 101.4 | 104.1 | 104.8 | 101.3 | 97.2 | 91.6 |       |
| DBA   | 83.9 | 87.6 | 89.7  | 89.3  | 90.3  | 91.3  | 89.8  | 90.5  | 92.4  | 93.4  | 89.0  | 83.1 | 78.9 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                 |                      |                          |                      |                 |                   |
|-----------------|----------------------|--------------------------|----------------------|-----------------|-------------------|
| VEHICL = ADH199 | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH     | CONFIG = 5           | MODEL = AX      | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE   | TAMB F = 74.00       | PAMB HG = 29.50 | RELHUM = 69.9 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 2400.0 FT | EXT CONFIG = SL      | MIKE HT =       | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =                | RPM V8 = 1640.1 FPS  | AE8 =           | 4.0 SQ IN         |
| FNRMB =         | LBS XNLR =           | RPM XNHR =               | RPM V18 = 2412.4 FPS | AE18 =          | 20.2 SQ IN        |

RUNPT = 82F-400-0512 TAPE = X05121 TEST PT NO = 0512 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0513 X0513C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 84.1  | 81.8  | 79.9  | 81.7  | 81.8  | 80.0  | 83.9  | 85.3  | 83.9  | 92.8  | 93.5  | 94.1  | 128.9 |
| 63    | 91.2  | 89.2  | 87.2  | 85.5  | 91.1  | 90.0  | 89.1  | 90.0  | 91.5  | 89.8  | 99.2  | 98.4  | 100.0 | 135.0 |
| 80    | 89.2  | 94.2  | 90.2  | 90.8  | 91.4  | 93.7  | 93.1  | 92.5  | 93.5  | 95.1  | 95.4  | 98.1  | 100.8 | 136.1 |
| 100   | 90.0  | 96.5  | 92.5  | 92.3  | 94.4  | 94.8  | 94.9  | 97.3  | 94.5  | 98.8  | 99.2  | 103.2 | 105.6 | 139.5 |
| 125   | 86.4  | 90.4  | 93.0  | 92.7  | 94.8  | 95.7  | 95.8  | 96.2  | 95.2  | 100.0 | 104.4 | 107.6 | 109.3 | 142.1 |
| 160   | 87.4  | 86.2  | 90.2  | 88.8  | 90.4  | 91.0  | 97.4  | 93.5  | 94.2  | 101.3 | 105.2 | 108.4 | 111.5 | 143.0 |
| 200   | 89.1  | 87.6  | 88.9  | 88.9  | 91.3  | 93.9  | 95.8  | 95.9  | 98.9  | 102.4 | 106.3 | 110.5 | 113.4 | 144.8 |
| 250   | 87.8  | 91.3  | 91.5  | 91.6  | 92.2  | 92.8  | 96.0  | 98.6  | 99.3  | 108.1 | 112.3 | 115.0 | 115.4 | 148.6 |
| 315   | 87.4  | 90.2  | 90.7  | 90.7  | 94.1  | 96.2  | 99.3  | 98.2  | 101.7 | 110.5 | 113.9 | 116.3 | 116.2 | 150.0 |
| 400   | 88.2  | 90.8  | 92.5  | 91.3  | 93.7  | 95.3  | 106.9 | 99.3  | 102.5 | 112.8 | 116.0 | 118.2 | 115.8 | 151.7 |
| 500   | 89.2  | 92.0  | 92.8  | 93.1  | 94.2  | 96.5  | 98.7  | 100.3 | 103.8 | 114.4 | 117.8 | 118.4 | 116.6 | 152.6 |
| 630   | 90.2  | 93.0  | 94.5  | 94.0  | 95.9  | 98.0  | 98.6  | 101.0 | 104.5 | 115.5 | 118.4 | 118.9 | 118.0 | 153.4 |
| 800   | 93.4  | 94.5  | 96.0  | 94.8  | 96.6  | 98.7  | 99.4  | 102.8 | 106.5 | 115.6 | 119.4 | 119.4 | 117.8 | 153.9 |
| 1000  | 98.2  | 99.5  | 99.5  | 97.3  | 98.4  | 100.0 | 100.4 | 103.5 | 106.7 | 114.8 | 118.7 | 119.9 | 118.0 | 153.8 |
| 1250  | 97.8  | 102.3 | 102.6 | 101.7 | 102.2 | 103.3 | 102.9 | 104.6 | 107.6 | 114.9 | 119.0 | 119.4 | 117.5 | 153.9 |
| 1600  | 99.3  | 98.9  | 99.6  | 99.0  | 101.0 | 102.3 | 103.7 | 105.2 | 108.6 | 113.9 | 118.3 | 118.7 | 115.7 | 153.1 |
| 2000  | 103.0 | 101.7 | 101.1 | 99.0  | 99.3  | 101.4 | 103.2 | 105.5 | 108.3 | 113.6 | 117.4 | 116.7 | 112.7 | 152.1 |
| 2500  | 102.8 | 103.8 | 103.6 | 102.3 | 101.9 | 102.6 | 103.0 | 106.1 | 108.7 | 114.8 | 116.8 | 115.3 | 110.8 | 151.9 |
| 3150  | 99.9  | 102.2 | 102.7 | 101.7 | 103.0 | 104.1 | 103.5 | 105.7 | 108.0 | 113.9 | 116.1 | 112.8 | 109.3 | 151.1 |
| 4000  | 96.8  | 98.2  | 100.1 | 100.0 | 101.9 | 103.6 | 103.5 | 106.3 | 107.7 | 112.9 | 113.7 | 111.0 | 107.2 | 149.7 |
| 5000  | 96.0  | 98.0  | 99.1  | 98.8  | 100.1 | 102.8 | 103.9 | 105.7 | 108.0 | 112.1 | 112.9 | 110.0 | 106.2 | 149.2 |
| 6300  | 93.9  | 96.7  | 98.5  | 97.7  | 99.5  | 101.2 | 103.5 | 105.9 | 106.6 | 110.8 | 110.6 | 108.4 | 105.1 | 148.0 |
| 8000  | 92.8  | 96.3  | 97.9  | 96.9  | 98.3  | 100.9 | 102.3 | 105.2 | 106.6 | 109.4 | 108.9 | 106.2 | 103.4 | 147.3 |
| 10000 | 92.7  | 96.6  | 98.4  | 97.8  | 98.5  | 101.0 | 102.0 | 104.1 | 105.3 | 109.1 | 107.8 | 105.8 | 102.9 | 147.2 |
| 12500 | 92.6  | 95.6  | 98.0  | 98.4  | 98.5  | 101.0 | 100.6 | 102.7 | 103.8 | 106.7 | 105.7 | 104.3 | 101.3 | 146.5 |
| 16000 | 90.2  | 94.6  | 96.0  | 97.1  | 98.5  | 99.2  | 98.8  | 101.1 | 101.6 | 104.2 | 104.2 | 101.6 | 99.4  | 146.0 |
| 20000 | 87.8  | 90.9  | 93.8  | 94.4  | 95.7  | 97.7  | 97.8  | 97.9  | 98.9  | 100.6 | 101.6 | 99.7  | 96.8  | 145.2 |
| 25000 | 84.1  | 88.5  | 91.0  | 92.4  | 94.1  | 96.2  | 95.8  | 96.1  | 97.5  | 100.0 | 99.0  | 96.4  | 93.2  | 145.7 |
| 31500 | 78.0  | 83.5  | 85.3  | 87.3  | 89.6  | 91.5  | 90.7  | 91.0  | 92.8  | 96.0  | 94.5  | 92.1  | 86.9  | 144.2 |
| 40000 | 75.1  | 80.1  | 82.6  | 83.6  | 86.7  | 88.6  | 88.4  | 88.2  | 90.4  | 94.0  | 93.7  | 89.6  | 83.6  | 146.0 |
| 50000 | 71.6  | 77.0  | 79.8  | 80.2  | 83.5  | 86.2  | 84.4  | 84.9  | 88.2  | 93.5  | 93.3  | 88.4  | 81.1  | 148.8 |
| 63000 | 68.0  | 74.4  | 77.2  | 77.0  | 80.2  | 83.1  | 81.1  | 82.8  | 86.6  | 92.8  | 93.7  | 87.4  | 78.1  | 153.1 |
| 80000 | 64.3  | 71.6  | 73.4  | 72.4  | 75.8  | 79.7  | 77.1  | 78.8  | 83.6  | 91.1  | 91.0  | 82.5  | 72.3  | 157.3 |

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CASPL 110.0 111.6 112.1 111.4 112.5 114.2 115.5 117.0 119.3 125.8 128.8 129.0 127.4 165.5  
PNL 123.5 124.9 125.3 124.4 125.8 127.2 127.9 130.0 132.0 138.0 140.4 139.6 137.0  
PNLT 123.5 126.0 126.3 125.6 125.8 127.2 129.2 130.0 132.0 138.0 140.4 139.6 137.0  
DBA 110.3 111.5 112.0 111.0 112.0 113.6 114.5 116.6 119.0 125.3 128.3 128.2 125.9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH191     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1648.9 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2420.8 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0513 | TAPE = X0513C        | TEST PT NO = 0513      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0513 X0513F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 84.1  | 81.8  | 79.9  | 81.7  | 81.8  | 80.0  | 83.9  | 85.3  | 83.9  | 92.8  | 93.5  | 94.1  | 128.9 |
| 63    | 91.2  | 89.2  | 87.2  | 85.5  | 91.1  | 90.0  | 89.1  | 90.0  | 91.5  | 89.8  | 99.2  | 98.4  | 100.0 | 135.0 |
| 80    | 89.2  | 94.2  | 90.2  | 90.8  | 91.4  | 93.7  | 93.1  | 92.5  | 93.5  | 95.1  | 95.4  | 98.1  | 100.8 | 136.1 |
| 100   | 90.0  | 96.5  | 92.5  | 92.3  | 94.4  | 94.8  | 94.9  | 97.3  | 94.5  | 98.8  | 99.2  | 103.2 | 105.6 | 139.5 |
| 125   | 86.4  | 90.4  | 93.0  | 92.7  | 94.8  | 95.7  | 95.8  | 96.2  | 95.2  | 100.0 | 104.4 | 107.6 | 109.3 | 142.1 |
| 160   | 87.4  | 86.2  | 90.2  | 88.8  | 90.4  | 91.0  | 97.4  | 93.5  | 94.2  | 101.3 | 105.2 | 108.4 | 111.5 | 143.0 |
| 200   | 89.1  | 87.6  | 88.9  | 88.9  | 91.3  | 93.9  | 95.8  | 95.9  | 98.9  | 102.4 | 106.3 | 110.5 | 113.4 | 144.8 |
| 250   | 87.8  | 91.3  | 91.6  | 91.6  | 92.2  | 93.8  | 96.0  | 98.6  | 99.3  | 108.1 | 112.3 | 115.0 | 115.4 | 148.6 |
| 315   | 87.4  | 90.2  | 90.7  | 90.7  | 94.1  | 96.2  | 99.3  | 98.2  | 101.7 | 110.5 | 113.9 | 116.3 | 116.2 | 150.0 |
| 400   | 88.2  | 90.8  | 92.5  | 91.3  | 93.7  | 95.3  | 106.9 | 99.3  | 102.5 | 112.8 | 116.0 | 118.2 | 115.8 | 151.7 |
| 500   | 89.2  | 92.0  | 92.8  | 93.1  | 94.2  | 96.5  | 98.7  | 100.3 | 103.8 | 114.4 | 117.8 | 118.4 | 116.6 | 152.6 |
| 630   | 90.2  | 93.0  | 94.5  | 94.0  | 95.9  | 98.0  | 98.6  | 101.0 | 104.5 | 115.5 | 118.4 | 118.9 | 118.0 | 153.4 |
| 800   | 93.4  | 94.5  | 96.0  | 94.8  | 96.6  | 98.7  | 99.4  | 102.8 | 106.5 | 115.6 | 119.4 | 119.4 | 117.8 | 153.9 |
| 1000  | 98.2  | 99.5  | 99.5  | 97.3  | 98.4  | 100.0 | 100.4 | 103.5 | 106.7 | 114.8 | 118.7 | 119.9 | 118.0 | 153.8 |
| 1250  | 97.8  | 102.3 | 102.6 | 101.7 | 102.2 | 103.3 | 102.9 | 104.6 | 107.6 | 114.9 | 119.0 | 119.4 | 117.5 | 153.9 |
| 1600  | 99.3  | 98.9  | 99.6  | 99.0  | 101.0 | 102.3 | 103.7 | 105.2 | 108.6 | 113.9 | 118.3 | 118.7 | 115.7 | 153.1 |
| 2000  | 103.0 | 101.7 | 101.1 | 99.0  | 99.3  | 101.4 | 103.2 | 105.5 | 108.3 | 113.6 | 117.4 | 116.7 | 112.7 | 152.1 |
| 2500  | 102.8 | 103.8 | 103.6 | 102.3 | 101.9 | 102.6 | 103.0 | 106.1 | 108.7 | 114.8 | 116.8 | 115.3 | 110.8 | 151.9 |
| 3150  | 99.9  | 102.2 | 102.7 | 101.7 | 103.0 | 104.1 | 103.5 | 105.7 | 108.0 | 113.9 | 116.1 | 112.8 | 109.3 | 151.1 |
| 4000  | 96.8  | 98.2  | 100.1 | 100.0 | 101.9 | 103.6 | 103.5 | 106.3 | 107.7 | 112.9 | 113.7 | 111.0 | 107.2 | 149.7 |
| 5000  | 96.0  | 98.0  | 99.1  | 98.8  | 100.1 | 102.8 | 103.9 | 105.7 | 108.0 | 112.1 | 112.9 | 110.0 | 106.2 | 149.2 |
| 6300  | 93.9  | 96.7  | 98.5  | 97.7  | 99.5  | 101.2 | 103.5 | 105.9 | 106.6 | 110.8 | 110.6 | 108.4 | 105.1 | 148.0 |
| 8000  | 92.8  | 96.3  | 97.9  | 96.9  | 98.3  | 100.9 | 102.3 | 105.2 | 106.6 | 109.4 | 108.9 | 106.2 | 103.4 | 147.3 |
| 10000 | 92.7  | 96.6  | 98.4  | 97.8  | 98.5  | 101.0 | 102.0 | 104.1 | 105.3 | 109.1 | 107.8 | 105.8 | 102.9 | 147.2 |
| 12500 | 92.6  | 95.6  | 98.0  | 98.4  | 98.5  | 101.0 | 100.6 | 102.7 | 103.8 | 106.7 | 105.7 | 104.3 | 101.3 | 146.5 |
| 16000 | 90.2  | 94.6  | 96.0  | 97.1  | 98.5  | 99.2  | 98.8  | 101.1 | 101.6 | 104.2 | 104.2 | 101.6 | 99.4  | 146.0 |
| 20000 | 87.8  | 90.9  | 93.8  | 94.4  | 95.7  | 97.7  | 97.8  | 97.9  | 98.9  | 100.6 | 101.6 | 99.7  | 96.8  | 145.2 |
| 25000 | 84.1  | 88.5  | 91.0  | 92.4  | 94.1  | 96.2  | 95.8  | 96.1  | 97.5  | 100.0 | 99.0  | 96.4  | 93.2  | 145.7 |
| 31500 | 78.0  | 83.5  | 85.3  | 87.3  | 89.6  | 91.5  | 90.7  | 91.0  | 92.8  | 96.0  | 94.5  | 92.1  | 86.9  | 144.2 |
| 40000 | 75.1  | 80.1  | 82.6  | 83.6  | 86.7  | 88.6  | 88.4  | 88.2  | 90.4  | 94.0  | 93.7  | 89.6  | 83.6  | 146.0 |
| 50000 | 71.6  | 77.0  | 79.8  | 80.2  | 83.5  | 86.2  | 84.4  | 84.9  | 88.2  | 93.5  | 93.3  | 88.4  | 81.1  | 148.8 |
| 63000 | 68.0  | 74.4  | 77.2  | 77.0  | 80.2  | 83.1  | 81.1  | 82.8  | 86.6  | 92.8  | 93.7  | 87.4  | 78.1  | 153.1 |
| 80000 | 64.3  | 71.6  | 73.4  | 72.4  | 75.8  | 79.7  | 77.1  | 78.8  | 83.6  | 91.1  | 91.0  | 82.5  | 72.3  | 157.3 |

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CASPL 110.0 111.6 112.1 111.4 112.5 114.2 115.5 117.0 119.3 125.8 128.8 129.0 127.4 165.5  
PNL 123.5 124.9 125.3 124.4 125.8 127.2 127.9 130.0 132.0 138.0 140.4 139.6 137.0  
PNLT 123.5 126.0 126.3 125.6 125.8 127.2 129.2 130.0 132.0 138.0 140.4 139.6 137.0  
DBA 185.5 192.5 194.5 193.8 197.1 200.8 198.3 199.9 204.5 211.7 211.8 203.8 194.0

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH191 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1648.9 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2420.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0513 TAPE = X0513F TEST PT NO = 0513 NC = AE056 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0513 X05131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 66.4 | 70.5 | 73.3 | 72.8 | 75.6  | 77.3  | 88.8  | 80.8  | 83.3  | 92.6  | 94.2  | 94.1  | 88.5 | 169.3 |
| 63    | 67.4 | 71.7 | 73.6 | 74.6 | 76.1  | 78.6  | 80.6  | 81.8  | 84.6  | 94.0  | 95.9  | 94.4  | 89.2 | 170.2 |
| 80    | 68.3 | 72.6 | 75.2 | 75.4 | 77.7  | 80.0  | 80.5  | 82.4  | 85.2  | 95.2  | 96.5  | 94.7  | 90.5 | 171.0 |
| 100   | 71.4 | 74.1 | 76.7 | 76.2 | 78.4  | 80.7  | 81.2  | 84.2  | 87.2  | 95.1  | 97.5  | 95.1  | 90.1 | 171.5 |
| 125   | 76.1 | 78.9 | 80.1 | 78.6 | 80.1  | 81.8  | 82.1  | 84.8  | 87.3  | 94.3  | 96.6  | 95.5  | 90.1 | 171.4 |
| 160   | 75.5 | 81.6 | 83.0 | 82.9 | 83.8  | 85.1  | 84.6  | 85.8  | 88.0  | 94.2  | 96.7  | 94.8  | 89.2 | 171.5 |
| 200   | 76.7 | 78.0 | 79.9 | 80.0 | 82.4  | 83.9  | 85.1  | 86.3  | 88.9  | 93.0  | 95.8  | 93.8  | 87.0 | 170.8 |
| 250   | 80.1 | 80.5 | 81.1 | 79.8 | 80.6  | 82.8  | 84.4  | 86.3  | 88.4  | 92.5  | 94.5  | 91.3  | 83.3 | 169.7 |
| 315   | 79.5 | 82.3 | 83.3 | 82.8 | 82.9  | 83.7  | 84.0  | 86.6  | 88.4  | 93.3  | 93.5  | 89.4  | 80.6 | 169.6 |
| 400   | 76.1 | 80.3 | 82.1 | 81.9 | 83.7  | 84.9  | 84.2  | 85.9  | 87.4  | 92.0  | 92.3  | 86.2  | 78.1 | 168.7 |
| 500   | 72.5 | 75.9 | 79.1 | 79.9 | 82.3  | 84.2  | 83.9  | 86.3  | 86.8  | 90.6  | 89.4  | 83.7  | 75.0 | 167.3 |
| 630   | 71.3 | 75.3 | 77.8 | 78.4 | 80.2  | 83.1  | 84.1  | 85.4  | 86.7  | 89.4  | 88.2  | 82.1  | 73.0 | 166.8 |
| 800   | 68.7 | 73.7 | 76.9 | 77.0 | 79.4  | 81.3  | 83.4  | 85.3  | 85.0  | 87.7  | 85.3  | 79.8  | 70.7 | 165.6 |
| 1000  | 67.1 | 73.0 | 76.1 | 76.1 | 78.1  | 80.8  | 82.1  | 84.3  | 84.8  | 86.0  | 83.3  | 76.9  | 67.8 | 164.9 |
| 1250  | 66.5 | 72.9 | 76.4 | 76.8 | 78.1  | 80.8  | 81.6  | 83.2  | 83.2  | 85.4  | 81.6  | 75.7  | 65.9 | 164.8 |
| 1600  | 65.5 | 71.3 | 75.5 | 77.1 | 77.9  | 80.6  | 79.9  | 81.4  | 81.3  | 82.4  | 78.6  | 72.9  | 62.0 | 164.1 |
| 2000  | 62.2 | 69.7 | 73.1 | 75.6 | 77.7  | 78.6  | 78.0  | 79.6  | 78.8  | 79.3  | 76.1  | 68.5  | 57.0 | 163.6 |
| 2500  | 58.0 | 64.8 | 70.0 | 72.1 | 74.3  | 76.6  | 76.4  | 75.6  | 75.2  | 74.5  | 71.8  | 63.8  | 49.6 | 162.8 |
| 3150  | 50.3 | 55.9 | 65.4 | 68.6 | 71.3  | 73.7  | 73.1  | 72.3  | 71.9  | 71.5  | 65.8  | 55.5  | 37.5 | 163.3 |
| 4000  | 38.6 | 50.3 | 55.9 | 60.3 | 63.9  | 66.2  | 65.0  | 64.0  | 63.4  | 62.7  | 55.1  | 42.3  | 16.8 | 161.8 |
| 5000  | 25.9 | 39.3 | 47.0 | 51.1 | 55.9  | 58.4  | 57.6  | 55.7  | 54.8  | 53.2  | 44.5  | 26.1  |      | 163.6 |
| 6300  | 4.7  | 21.9 | 32.1 | 36.9 | 42.6  | 46.2  | 43.6  | 41.6  | 40.5  | 38.4  | 26.4  | 0.8   |      | 166.4 |
| 8000  |      |      | 8.1  | 14.5 | 21.3  | 25.3  | 22.1  | 20.3  | 17.5  | 13.0  |       |       |      | 170.7 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 174.9 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| OASPL | 86.4 | 89.6 | 91.4 | 91.3 | 92.8  | 94.6  | 95.9  | 96.9  | 98.6  | 104.4 | 105.9 | 103.8 | 98.1 | 182.8 |
| PNL   | 90.9 | 95.0 | 97.3 | 98.2 | 100.2 | 101.9 | 102.2 | 103.3 | 104.1 | 108.2 | 108.1 | 104.7 |      | 97.4  |
| PNLT  | 90.9 | 95.5 | 97.8 | 98.8 | 100.2 | 101.9 | 102.2 | 103.3 | 104.1 | 108.8 | 108.1 | 105.7 |      | 97.4  |
| DBA   | 79.8 | 83.8 | 86.4 | 87.0 | 89.7  | 90.7  | 91.2  | 92.9  | 93.5  | 96.5  | 95.9  | 91.6  |      | 84.1  |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH191 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1648.9 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2420.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0513 TAPE = X05131 TEST PT NO = 0513 NC = AE056 CORR FAN SPEED = RPM

412

EO-38112

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0514 X0514C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.5 | 86.1 | 81.6  | 81.1 | 82.0  | 82.3  | 81.2  | 83.4  | 84.6  | 86.9  | 91.5  | 91.7  | 99.9  | 130.6 |
| 63    | 92.4 | 88.7 | 88.0  | 84.5 | 88.1  | 87.7  | 86.9  | 86.3  | 88.7  | 92.5  | 92.9  | 93.1  | 98.5  | 132.5 |
| 80    | 88.4 | 93.7 | 89.7  | 90.5 | 90.4  | 92.2  | 91.6  | 91.8  | 91.7  | 93.8  | 84.2  | 95.9  | 101.0 | 135.1 |
| 100   | 88.0 | 93.8 | 89.5  | 89.8 | 92.2  | 92.8  | 93.4  | 94.8  | 92.3  | 96.1  | 96.5  | 100.7 | 104.3 | 137.4 |
| 125   | 85.9 | 88.9 | 91.0  | 90.7 | 92.8  | 94.0  | 93.3  | 94.0  | 92.5  | 97.3  | 101.2 | 105.1 | 107.8 | 139.9 |
| 160   | 85.4 | 81.7 | 88.0  | 85.8 | 87.6  | 89.0  | 94.5  | 90.0  | 90.5  | 98.0  | 101.7 | 105.6 | 109.8 | 140.5 |
| 200   | 86.8 | 85.4 | 84.6  | 84.7 | 87.3  | 89.9  | 92.0  | 92.7  | 95.4  | 98.9  | 102.3 | 107.5 | 110.9 | 141.8 |
| 250   | 82.5 | 86.3 | 86.1  | 86.1 | 87.5  | 89.6  | 93.2  | 93.9  | 94.8  | 103.1 | 107.5 | 110.7 | 111.6 | 144.3 |
| 315   | 84.1 | 86.2 | 85.7  | 87.0 | 88.8  | 91.2  | 94.6  | 94.0  | 96.9  | 106.2 | 109.6 | 112.8 | 112.7 | 146.2 |
| 400   | 84.0 | 86.8 | 87.3  | 85.8 | 88.4  | 90.0  | 101.4 | 94.3  | 98.0  | 108.1 | 111.7 | 113.9 | 111.3 | 147.3 |
| 500   | 84.5 | 86.3 | 87.8  | 87.8 | 89.2  | 91.8  | 93.4  | 95.1  | 99.1  | 110.1 | 113.8 | 113.7 | 109.3 | 147.9 |
| 630   | 84.2 | 87.5 | 89.2  | 88.8 | 90.4  | 92.7  | 93.6  | 96.3  | 99.7  | 111.5 | 114.2 | 113.6 | 107.0 | 148.3 |
| 800   | 85.9 | 88.0 | 89.5  | 89.5 | 91.9  | 93.5  | 94.6  | 98.8  | 101.7 | 111.3 | 114.5 | 112.1 | 103.3 | 148.0 |
| 1000  | 88.7 | 89.2 | 90.7  | 90.5 | 92.1  | 94.2  | 95.9  | 98.5  | 102.7 | 111.3 | 112.9 | 110.1 | 99.8  | 147.0 |
| 1250  | 89.8 | 92.8 | 93.3  | 92.2 | 93.4  | 95.8  | 96.9  | 99.9  | 103.3 | 110.6 | 111.8 | 107.2 | 98.0  | 146.1 |
| 1600  | 94.5 | 94.7 | 94.3  | 92.5 | 95.2  | 96.8  | 98.2  | 101.0 | 104.3 | 110.9 | 111.0 | 104.2 | 97.0  | 146.0 |
| 2000  | 98.3 | 98.7 | 98.1  | 95.7 | 95.3  | 96.7  | 98.4  | 101.2 | 104.3 | 109.9 | 109.6 | 101.5 | 95.7  | 145.3 |
| 2500  | 96.8 | 99.0 | 100.3 | 99.3 | 98.4  | 98.1  | 98.7  | 102.4 | 105.2 | 111.0 | 109.0 | 100.8 | 95.4  | 146.0 |
| 3150  | 93.1 | 95.4 | 97.4  | 97.5 | 100.3 | 100.4 | 100.3 | 102.0 | 104.3 | 110.1 | 108.6 | 100.3 | 94.8  | 145.5 |
| 4000  | 91.3 | 92.5 | 95.1  | 95.0 | 97.4  | 100.2 | 100.5 | 103.1 | 104.0 | 108.9 | 106.7 | 100.0 | 94.0  | 144.6 |
| 5000  | 92.1 | 94.0 | 95.2  | 94.1 | 96.1  | 98.6  | 100.7 | 103.0 | 105.0 | 108.9 | 106.2 | 99.0  | 93.5  | 144.6 |
| 6300  | 92.0 | 93.5 | 94.8  | 93.9 | 96.3  | 98.0  | 100.0 | 103.2 | 104.4 | 107.6 | 104.6 | 98.2  | 92.4  | 144.0 |
| 8000  | 93.3 | 95.9 | 95.5  | 94.5 | 95.4  | 98.2  | 99.4  | 103.0 | 103.9 | 107.0 | 103.0 | 96.5  | 91.7  | 143.9 |
| 10000 | 94.6 | 97.8 | 99.1  | 96.7 | 97.1  | 99.1  | 99.3  | 102.3 | 103.9 | 107.5 | 102.7 | 97.7  | 92.0  | 144.9 |
| 12500 | 95.5 | 97.6 | 99.9  | 98.1 | 98.7  | 100.2 | 99.3  | 101.7 | 103.5 | 106.2 | 102.2 | 96.7  | 91.5  | 145.4 |
| 16000 | 92.3 | 95.9 | 97.1  | 96.4 | 98.5  | 99.5  | 98.8  | 99.7  | 102.0 | 104.5 | 100.8 | 95.8  | 90.6  | 145.3 |
| 20000 | 90.0 | 92.6 | 95.0  | 94.6 | 96.4  | 98.4  | 97.5  | 97.1  | 98.9  | 101.5 | 98.9  | 93.9  | 89.8  | 144.7 |
| 25000 | 87.0 | 90.9 | 93.2  | 92.6 | 95.0  | 96.6  | 96.2  | 96.2  | 98.0  | 100.3 | 95.7  | 92.8  | 87.0  | 145.6 |
| 31500 | 80.6 | 85.3 | 87.1  | 88.0 | 90.3  | 92.1  | 91.1  | 91.7  | 92.8  | 95.3  | 90.5  | 87.5  | 80.8  | 143.8 |
| 40000 | 77.9 | 82.9 | 84.9  | 84.6 | 87.6  | 89.9  | 88.5  | 88.9  | 90.2  | 92.5  | 87.9  | 84.2  | 77.6  | 145.1 |
| 50000 | 74.1 | 78.7 | 81.3  | 80.8 | 84.7  | 87.0  | 84.9  | 85.5  | 87.7  | 90.1  | 85.2  | 80.1  | 73.3  | 146.5 |
| 63000 | 69.8 | 75.4 | 77.9  | 76.2 | 81.1  | 83.0  | 80.9  | 82.5  | 84.6  | 88.5  | 82.6  | 76.0  | 68.2  | 148.9 |
| 80000 | 64.3 | 71.2 | 73.3  | 71.0 | 75.1  | 78.5  | 75.9  | 76.8  | 80.7  | 85.5  | 77.6  | 69.2  | 60.3  | 151.6 |

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GASPL 106.1 108.1 109.0 108.0 109.4 110.9 111.9 113.9 116.0 122.2 123.1 122.0 120.0 160.8  
PNL 118.5 120.5 121.4 120.5 122.2 123.3 124.3 126.5 128.4 134.4 133.9 130.1 126.9  
PNLT 118.5 120.5 121.4 120.5 122.2 123.8 125.6 126.5 128.4 134.4 133.9 130.1 126.9  
DBA 105.1 106.7 107.6 106.5 107.8 109.3 110.5 113.1 115.4 121.6 122.1 119.2 114.2

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VERTCL = ADH200 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1644.2 FPS AEB = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2431.0 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0514 TAPE = X0514C TEST PT NO = 0514 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, S8 40.0 FT. ARC

IDENTIFICATION - 82F-400-0514 X0514F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 89.6  | 92.2  | 90.7  | 89.2  | 89.0  | 89.6  | 91.3  | 90.3  | 93.5  | 101.9 | 104.7 | 108.4 | 110.1 | 142.4 |
| 315   | 89.6  | 92.2  | 90.7  | 89.2  | 90.6  | 91.4  | 93.2  | 91.2  | 94.8  | 104.0 | 107.3 | 110.2 | 110.2 | 143.8 |
| 400   | 91.8  | 92.5  | 90.6  | 90.4  | 90.1  | 90.3  | 100.1 | 91.6  | 97.0  | 107.4 | 110.7 | 111.9 | 110.8 | 146.1 |
| 500   | 90.8  | 92.6  | 91.9  | 89.0  | 91.1  | 92.1  | 92.7  | 93.2  | 98.4  | 109.8 | 112.5 | 113.8 | 111.6 | 147.7 |
| 630   | 92.2  | 92.7  | 92.8  | 91.3  | 92.3  | 93.1  | 93.0  | 94.7  | 100.9 | 110.2 | 113.9 | 114.3 | 111.4 | 148.4 |
| 800   | 91.8  | 93.9  | 94.2  | 92.3  | 93.9  | 94.0  | 94.0  | 97.2  | 102.1 | 110.6 | 112.9 | 113.5 | 110.4 | 148.0 |
| 1000  | 93.6  | 94.4  | 94.6  | 93.1  | 94.3  | 94.9  | 95.3  | 96.9  | 102.5 | 109.7 | 111.6 | 110.5 | 108.7 | 146.5 |
| 1250  | 96.3  | 95.7  | 95.8  | 94.2  | 95.6  | 96.6  | 96.4  | 98.2  | 103.5 | 109.9 | 110.7 | 107.4 | 107.7 | 145.9 |
| 1600  | 96.6  | 98.8  | 98.1  | 95.7  | 97.2  | 97.9  | 97.8  | 99.4  | 103.7 | 109.0 | 109.5 | 104.8 | 106.6 | 145.3 |
| 2000  | 99.5  | 99.1  | 98.0  | 95.3  | 97.4  | 98.0  | 98.3  | 99.8  | 104.9 | 110.4 | 108.9 | 104.1 | 106.2 | 145.8 |
| 2500  | 104.9 | 104.2 | 102.4 | 98.8  | 100.9 | 99.7  | 98.9  | 101.2 | 104.5 | 110.1 | 109.2 | 104.3 | 106.4 | 146.7 |
| 3150  | 101.8 | 103.6 | 104.3 | 102.5 | 103.6 | 102.4 | 100.9 | 101.3 | 104.9 | 109.4 | 107.7 | 104.3 | 105.8 | 146.8 |
| 4000  | 100.7 | 102.1 | 103.0 | 101.9 | 101.7 | 102.7 | 101.7 | 103.1 | 105.8 | 109.3 | 107.0 | 103.1 | 104.9 | 146.6 |
| 5000  | 101.6 | 101.5 | 102.5 | 100.8 | 100.1 | 101.6 | 102.2 | 103.1 | 105.5 | 108.2 | 105.7 | 102.5 | 104.2 | 146.0 |
| 6300  | 99.5  | 100.7 | 101.0 | 98.9  | 100.3 | 101.0 | 101.6 | 103.4 | 105.3 | 107.9 | 104.4 | 101.2 | 103.8 | 145.6 |
| 8000  | 99.3  | 100.1 | 100.5 | 98.6  | 99.4  | 101.2 | 101.2 | 103.3 | 105.4 | 108.5 | 104.2 | 102.5 | 104.3 | 146.1 |
| 10000 | 100.5 | 102.3 | 101.0 | 99.0  | 101.0 | 102.1 | 101.1 | 102.6 | 105.6 | 107.9 | 104.5 | 102.5 | 104.9 | 146.9 |
| 12500 | 100.8 | 103.5 | 104.0 | 100.7 | 102.8 | 103.2 | 101.3 | 102.3 | 104.9 | 107.2 | 104.0 | 102.6 | 105.0 | 148.0 |
| 16000 | 101.8 | 103.2 | 104.6 | 101.9 | 102.6 | 102.5 | 101.0 | 100.6 | 103.1 | 105.5 | 103.6 | 101.9 | 105.0 | 148.8 |
| 20000 | 98.2  | 101.1 | 101.4 | 99.8  | 100.4 | 101.4 | 99.9  | 98.6  | 102.5 | 104.6 | 100.7 | 101.2 | 102.9 | 148.8 |
| 25000 | 95.3  | 97.2  | 98.7  | 97.3  | 99.6  | 99.6  | 98.5  | 97.5  | 97.9  | 100.2 | 96.0  | 96.5  | 97.4  | 148.2 |
| 31500 | 94.3  | 97.0  | 97.8  | 95.7  | 94.9  | 95.1  | 93.4  | 92.9  | 96.2  | 98.2  | 94.3  | 94.2  | 95.3  | 148.7 |
| 40000 | 87.1  | 90.5  | 90.9  | 90.2  | 92.2  | 92.9  | 90.8  | 90.1  | 93.0  | 94.9  | 90.3  | 88.3  | 88.4  | 148.6 |
| 50000 | 84.0  | 87.8  | 88.3  | 86.4  | 89.3  | 90.0  | 86.7  | 85.9  | 90.8  | 94.1  | 88.6  | 84.9  | 84.0  | 150.4 |
| 63000 | 79.2  | 82.6  | 83.7  | 81.7  | 85.7  | 86.0  | 82.7  | 82.7  | 88.3  | 92.6  | 85.0  | 79.6  | 77.6  | 152.6 |
| 80000 | 73.5  | 77.8  | 78.9  | 75.6  | 79.7  | 81.5  | 77.6  | 77.1  | 78.5  | 82.8  | 75.2  | 69.8  | 67.8  | 152.2 |
| OASPL | 112.3 | 113.4 | 113.6 | 111.5 | 112.6 | 113.0 | 112.6 | 113.4 | 116.6 | 121.7 | 122.1 | 121.7 | 121.0 | 162.1 |
| PNL   | 124.7 | 125.1 | 125.3 | 123.4 | 124.4 | 124.3 | 124.1 | 125.2 | 128.5 | 133.2 | 132.5 | 130.0 | 130.8 |       |
| PNLT  | 126.1 | 125.1 | 125.3 | 123.4 | 124.4 | 124.3 | 125.3 | 125.2 | 128.5 | 133.2 | 132.5 | 130.0 | 130.8 |       |
| DBA   | 195.3 | 199.3 | 200.4 | 197.5 | 201.5 | 202.9 | 199.1 | 198.8 | 201.8 | 206.0 | 198.6 | 193.6 | 191.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|          |          |           |            |          |                |        |         |          |           |            |            |
|----------|----------|-----------|------------|----------|----------------|--------|---------|----------|-----------|------------|------------|
| VEHICLE  | = ADH200 | TEST DATE | = 08-10-82 | LOCAT    | = C41 ANECH CH | CONFIG | = 5     | MODEL    | = AX      | FLTVEL     | = 400. FPS |
| ALPHA    | = SB59   | IEGA      | = NO       | PWL AREA | = FULL SPHERE  | TAMB F | = 74.00 | PAMB HG  | = 29.50   | RELHUM     | = 69.9 PCT |
| WIND DIR | =        | DEG       |            | WIND VEL | =              | MPH    |         | EXT DIST | = 40.0 FT | EXT CONFIG | = ARC      |
|          |          |           |            |          |                |        |         | MIKE HT  | =         | NBFR       | =          |

|        |   |     |      |   |     |      |   |     |     |              |      |   |            |
|--------|---|-----|------|---|-----|------|---|-----|-----|--------------|------|---|------------|
| FNIN1  | = | LBS | XNL  | = | RPM | XNH  | = | RPM | V6  | = 1644.2 FPS | AE8  | = | 4.0 SQ IN  |
| FNRAMB | = | LBS | XNLR | = | RPM | XNHR | = | RPM | V18 | = 2431.0 FPS | AE18 | = | 20.2 SQ IN |

RUNPT = 82F-400-0514 TAPE = X0514F TEST PT NO = 0514 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0514 X05141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.0 | 72.2  | 71.4  | 71.8  | 72.0  | 72.3  | 82.0  | 73.1  | 77.8  | 87.1  | 88.9  | 87.8 | 83.5 | 163.7 |
| 63    | 68.9 | 72.3  | 72.6  | 70.5  | 73.0  | 74.1  | 74.6  | 74.7  | 79.2  | 89.5  | 90.7  | 89.7 | 84.2 | 165.3 |
| 80    | 70.3 | 72.3  | 73.5  | 72.7  | 74.2  | 75.1  | 74.8  | 76.1  | 81.6  | 89.9  | 92.0  | 90.1 | 83.9 | 166.0 |
| 100   | 69.9 | 73.5  | 74.9  | 73.7  | 75.7  | 75.9  | 75.8  | 78.6  | 82.8  | 90.2  | 91.0  | 89.3 | 82.8 | 165.6 |
| 125   | 71.5 | 73.9  | 75.1  | 74.4  | 76.0  | 76.7  | 77.0  | 78.2  | 83.1  | 89.2  | 89.5  | 86.1 | 80.7 | 164.1 |
| 160   | 74.0 | 75.0  | 76.3  | 75.3  | 77.2  | 78.4  | 78.0  | 79.4  | 84.0  | 89.2  | 88.4  | 82.7 | 79.4 | 163.6 |
| 200   | 74.1 | 77.9  | 78.4  | 76.8  | 78.6  | 79.5  | 79.3  | 80.4  | 84.0  | 88.2  | 86.9  | 79.8 | 77.8 | 162.9 |
| 250   | 76.7 | 77.9  | 78.0  | 76.1  | 78.7  | 79.3  | 79.5  | 80.6  | 84.9  | 89.2  | 86.1  | 78.7 | 76.8 | 163.4 |
| 315   | 81.6 | 82.6  | 82.1  | 79.4  | 81.9  | 80.8  | 79.9  | 81.7  | 84.2  | 88.6  | 85.9  | 78.4 | 76.2 | 164.3 |
| 400   | 78.1 | 81.7  | 83.7  | 82.7  | 84.2  | 83.2  | 81.6  | 81.5  | 84.2  | 87.5  | 83.9  | 77.8 | 74.6 | 164.4 |
| 500   | 76.4 | 79.8  | 82.0  | 81.8  | 82.1  | 83.3  | 82.1  | 83.0  | 84.9  | 87.0  | 82.8  | 75.8 | 72.7 | 164.2 |
| 630   | 76.9 | 78.8  | 81.3  | 80.4  | 80.3  | 81.9  | 82.3  | 82.7  | 84.2  | 85.5  | 80.9  | 74.6 | 70.9 | 163.6 |
| 800   | 74.2 | 77.7  | 79.4  | 78.3  | 80.2  | 81.1  | 81.5  | 82.7  | 83.7  | 84.8  | 79.1  | 72.5 | 69.4 | 163.2 |
| 1000  | 73.6 | 76.7  | 78.7  | 77.8  | 79.2  | 81.1  | 81.0  | 82.5  | 83.5  | 85.2  | 78.6  | 73.2 | 68.8 | 163.7 |
| 1250  | 74.3 | 78.6  | 78.9  | 78.0  | 80.6  | 81.9  | 80.7  | 81.6  | 83.6  | 84.2  | 78.3  | 72.4 | 67.9 | 164.5 |
| 1600  | 73.7 | 79.2  | 81.5  | 79.4  | 82.1  | 82.8  | 80.7  | 81.0  | 82.4  | 82.9  | 77.0  | 71.1 | 65.6 | 165.6 |
| 2000  | 73.8 | 78.3  | 81.8  | 80.3  | 81.7  | 81.9  | 80.2  | 79.0  | 80.3  | 80.6  | 75.5  | 68.8 | 62.6 | 166.4 |
| 2500  | 68.4 | 75.0  | 77.7  | 77.5  | 79.0  | 80.3  | 78.5  | 76.4  | 78.7  | 78.5  | 70.9  | 65.3 | 55.6 | 166.4 |
| 3150  | 62.1 | 68.7  | 73.1  | 73.5  | 76.8  | 77.1  | 75.8  | 73.8  | 72.3  | 71.8  | 62.8  | 55.6 | 41.8 | 165.8 |
| 4000  | 54.9 | 63.7  | 68.4  | 68.6  | 69.1  | 69.8  | 67.7  | 65.8  | 66.7  | 64.9  | 54.9  | 44.4 | 25.1 | 166.4 |
| 5000  | 37.9 | 49.7  | 55.2  | 57.7  | 61.4  | 62.7  | 60.1  | 57.6  | 57.3  | 54.0  | 41.1  | 24.7 |      | 166.2 |
| 6300  | 17.0 | 32.7  | 40.6  | 43.1  | 48.5  | 49.9  | 45.9  | 42.6  | 43.0  | 39.1  | 21.6  |      |      | 168.0 |
| 8000  |      | 2.7   | 14.6  | 19.1  | 26.7  | 28.2  | 23.7  | 20.2  | 19.2  | 12.7  |       |      |      | 170.2 |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |      |      | 169.8 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |      |      |       |
| GASPL | 87.8 | 90.5  | 92.0  | 90.9  | 92.5  | 93.1  | 92.6  | 93.0  | 95.6  | 100.0 | 89.3  | 96.5 | 91.3 | 179.6 |
| PNL   | 94.9 | 99.1  | 101.7 | 100.6 | 102.3 | 103.0 | 101.8 | 101.3 | 103.3 | 105.3 | 101.6 | 97.1 | 91.7 |       |
| PNLT  | 96.0 | 100.1 | 102.3 | 101.1 | 102.3 | 103.0 | 101.8 | 101.3 | 103.8 | 105.9 | 101.6 | 97.1 | 91.7 |       |
| DBA   | 84.2 | 88.0  | 90.1  | 89.0  | 90.7  | 91.5  | 90.4  | 90.7  | 92.3  | 93.9  | 89.4  | 83.3 | 79.5 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEP = ADH200 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1644.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2431.0 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0514 TAPE = X05141 TEST PT NO = 0514 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0515 X0515C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 84.6  | 81.8  | 79.9  | 81.7  | 82.1  | 83.5  | 85.9  | 85.6  | 87.2  | 92.8  | 93.2  | 94.4  | 129.3 |
| 63    | 90.2  | 91.5  | 88.0  | 87.3  | 90.4  | 89.5  | 88.9  | 91.5  | 91.5  | 92.0  | 98.9  | 97.6  | 99.8  | 135.0 |
| 80    | 89.4  | 94.2  | 90.7  | 91.0  | 91.6  | 93.7  | 94.1  | 92.5  | 93.7  | 95.3  | 95.9  | 98.4  | 100.5 | 136.3 |
| 100   | 90.2  | 96.8  | 91.8  | 92.3  | 94.4  | 95.3  | 95.7  | 97.3  | 94.5  | 99.1  | 99.5  | 103.2 | 106.1 | 139.8 |
| 125   | 86.4  | 90.4  | 92.7  | 92.5  | 95.1  | 96.2  | 95.3  | 96.7  | 95.2  | 100.5 | 104.4 | 107.6 | 109.0 | 142.1 |
| 160   | 87.4  | 86.0  | 90.5  | 88.5  | 90.4  | 92.0  | 100.4 | 93.8  | 94.2  | 101.5 | 105.9 | 108.6 | 111.5 | 143.4 |
| 200   | 89.1  | 87.6  | 89.6  | 89.2  | 92.0  | 94.9  | 96.3  | 96.2  | 99.1  | 102.9 | 106.8 | 111.0 | 113.9 | 145.3 |
| 250   | 88.0  | 91.3  | 91.8  | 91.9  | 91.7  | 94.1  | 96.5  | 98.6  | 99.3  | 108.6 | 112.3 | 115.0 | 115.4 | 148.6 |
| 315   | 88.1  | 91.4  | 90.4  | 90.7  | 93.6  | 96.7  | 99.3  | 98.7  | 101.7 | 110.7 | 113.6 | 116.6 | 116.2 | 150.1 |
| 400   | 88.5  | 91.5  | 92.3  | 91.6  | 93.9  | 95.3  | 106.9 | 99.3  | 102.5 | 113.6 | 116.0 | 117.7 | 116.6 | 151.8 |
| 500   | 90.0  | 92.3  | 93.1  | 93.3  | 94.4  | 97.0  | 98.9  | 100.6 | 104.3 | 114.9 | 118.0 | 118.4 | 117.1 | 152.8 |
| 630   | 90.7  | 93.2  | 94.7  | 93.5  | 95.6  | 98.0  | 98.6  | 101.8 | 104.7 | 116.0 | 118.4 | 118.9 | 117.8 | 153.5 |
| 800   | 93.9  | 94.7  | 95.5  | 95.0  | 97.4  | 99.2  | 100.1 | 103.0 | 106.5 | 115.8 | 119.4 | 119.1 | 117.8 | 153.9 |
| 1000  | 98.4  | 98.7  | 99.5  | 97.3  | 98.4  | 100.0 | 101.1 | 104.0 | 107.2 | 115.6 | 119.2 | 120.1 | 118.5 | 154.3 |
| 1250  | 98.3  | 102.8 | 102.3 | 101.7 | 101.7 | 103.3 | 102.9 | 104.9 | 107.6 | 115.1 | 118.5 | 119.4 | 117.7 | 153.8 |
| 1600  | 100.0 | 99.9  | 100.1 | 99.0  | 100.7 | 102.1 | 103.7 | 105.7 | 108.6 | 114.4 | 118.0 | 118.0 | 116.2 | 153.0 |
| 2000  | 104.0 | 101.7 | 101.3 | 99.2  | 99.6  | 101.7 | 103.4 | 105.5 | 108.1 | 113.6 | 117.4 | 116.0 | 113.2 | 151.9 |
| 2500  | 103.3 | 103.8 | 104.1 | 102.1 | 102.4 | 102.3 | 103.2 | 106.6 | 109.5 | 115.3 | 117.0 | 114.1 | 111.1 | 152.1 |
| 3150  | 99.9  | 101.9 | 102.4 | 102.0 | 103.3 | 103.9 | 104.0 | 106.0 | 108.0 | 114.6 | 116.4 | 112.3 | 110.1 | 151.3 |
| 4000  | 97.5  | 98.7  | 100.3 | 100.5 | 102.2 | 104.1 | 104.0 | 106.6 | 108.5 | 113.4 | 113.9 | 110.5 | 108.5 | 150.1 |
| 5000  | 96.5  | 98.5  | 99.9  | 99.0  | 100.3 | 103.0 | 104.2 | 106.2 | 108.0 | 112.1 | 113.2 | 109.2 | 107.0 | 149.3 |
| 6300  | 94.9  | 97.2  | 98.8  | 98.2  | 100.2 | 101.9 | 103.2 | 106.4 | 107.9 | 111.0 | 111.1 | 107.9 | 105.4 | 148.4 |
| 8000  | 93.0  | 96.8  | 98.4  | 97.4  | 98.6  | 101.6 | 102.1 | 105.4 | 106.4 | 109.4 | 109.7 | 105.7 | 103.9 | 147.4 |
| 10000 | 93.0  | 97.1  | 98.4  | 97.8  | 99.0  | 101.2 | 102.2 | 104.1 | 105.8 | 109.1 | 108.3 | 105.6 | 103.4 | 147.4 |
| 12500 | 92.6  | 96.1  | 98.7  | 98.2  | 98.8  | 100.8 | 101.1 | 103.0 | 104.3 | 106.4 | 106.5 | 103.3 | 101.8 | 146.7 |
| 16000 | 90.5  | 95.6  | 96.7  | 96.9  | 98.7  | 99.2  | 99.5  | 101.4 | 101.9 | 104.2 | 104.2 | 101.3 | 99.4  | 146.1 |
| 20000 | 88.3  | 91.9  | 94.5  | 95.4  | 96.7  | 98.2  | 97.8  | 98.4  | 99.2  | 101.1 | 101.9 | 99.2  | 97.8  | 145.6 |
| 25000 | 85.1  | 90.0  | 92.0  | 92.9  | 94.8  | 96.7  | 96.1  | 95.8  | 97.7  | 99.8  | 99.5  | 96.9  | 93.5  | 146.0 |
| 31500 | 79.0  | 84.3  | 86.3  | 88.1  | 90.1  | 92.3  | 91.0  | 91.0  | 93.1  | 95.5  | 95.5  | 92.6  | 86.7  | 144.5 |
| 40000 | 75.1  | 81.4  | 83.9  | 84.6  | 87.2  | 89.3  | 87.9  | 88.7  | 90.9  | 93.3  | 94.4  | 89.9  | 84.3  | 146.2 |
| 50000 | 72.1  | 78.5  | 80.3  | 80.7  | 84.2  | 86.5  | 85.2  | 85.4  | 88.7  | 93.2  | 93.1  | 88.2  | 81.6  | 148.8 |
| 63000 | 68.3  | 74.9  | 77.2  | 77.0  | 81.0  | 83.4  | 81.1  | 84.0  | 86.4  | 92.1  | 93.2  | 86.4  | 78.6  | 152.7 |
| 80000 | 64.1  | 72.4  | 74.7  | 73.2  | 76.3  | 80.2  | 77.8  | 79.8  | 83.9  | 91.1  | 91.5  | 82.7  | 72.3  | 157.6 |

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CASPL 110.5 111.8 112.4 111.5 112.8 114.4 115.8 117.3 119.5 126.2 128.8 128.8 127.7 165.7  
PNL 124.0 125.1 125.6 124.6 126.0 127.4 128.2 130.3 132.3 138.5 140.6 138.9 137.4  
PNLT 124.0 126.3 125.6 125.8 126.0 127.4 129.5 130.3 132.3 138.5 140.6 138.9 137.4  
DBA 110.9 111.7 112.2 111.1 112.2 113.7 114.7 117.0 119.3 125.8 128.4 127.9 126.2

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH192     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 72.00       | PAMB HG = 29.50   | RELHUM = 90.7 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1638.0 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2435.6 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0515 | TAPE = X0515C        | TEST PT NO = 0515      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0515 X0515F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.0  | 84.6  | 81.8  | 79.9  | 81.7  | 82.1  | 83.5  | 85.9  | 85.6  | 87.2  | 92.8  | 93.2  | 94.4  | 129.3 |
| 63    | 90.2  | 91.5  | 88.0  | 87.3  | 90.4  | 89.5  | 88.9  | 91.5  | 91.5  | 92.0  | 98.9  | 97.6  | 99.8  | 135.0 |
| 80    | 89.4  | 94.2  | 90.7  | 91.0  | 91.6  | 93.7  | 94.1  | 92.5  | 93.7  | 95.3  | 95.9  | 98.4  | 100.5 | 136.3 |
| 100   | 90.2  | 96.8  | 91.8  | 92.3  | 94.4  | 95.3  | 95.7  | 97.3  | 94.5  | 99.1  | 99.5  | 103.2 | 106.1 | 139.8 |
| 125   | 86.4  | 90.4  | 92.7  | 92.5  | 95.1  | 96.2  | 95.3  | 96.7  | 95.2  | 100.5 | 104.4 | 107.6 | 109.0 | 142.1 |
| 160   | 87.4  | 86.0  | 90.5  | 88.5  | 90.4  | 92.0  | 100.4 | 93.8  | 94.2  | 101.5 | 105.9 | 108.6 | 111.5 | 143.4 |
| 200   | 89.1  | 87.6  | 89.6  | 89.2  | 92.0  | 94.9  | 96.3  | 96.2  | 99.1  | 102.9 | 106.8 | 111.0 | 113.9 | 145.3 |
| 250   | 88.0  | 91.3  | 91.8  | 91.9  | 91.7  | 94.1  | 96.5  | 98.6  | 99.3  | 108.6 | 112.3 | 115.0 | 115.4 | 148.6 |
| 315   | 88.1  | 91.4  | 90.4  | 90.7  | 93.6  | 96.7  | 99.3  | 98.7  | 101.7 | 110.7 | 113.6 | 116.6 | 116.2 | 150.1 |
| 400   | 88.5  | 91.5  | 92.3  | 91.6  | 93.9  | 95.3  | 106.9 | 99.3  | 102.5 | 113.6 | 116.0 | 117.7 | 116.6 | 151.8 |
| 500   | 90.0  | 92.3  | 93.1  | 93.3  | 94.4  | 97.0  | 98.9  | 100.6 | 104.3 | 114.9 | 118.0 | 118.4 | 117.1 | 152.8 |
| 630   | 90.7  | 93.2  | 94.7  | 93.5  | 95.6  | 98.0  | 98.6  | 101.8 | 104.7 | 116.0 | 118.4 | 118.9 | 117.8 | 153.5 |
| 800   | 93.9  | 94.7  | 95.5  | 95.0  | 97.4  | 99.2  | 100.1 | 103.0 | 106.5 | 115.8 | 119.4 | 119.1 | 117.8 | 153.9 |
| 1000  | 98.4  | 98.7  | 99.5  | 97.3  | 98.4  | 100.0 | 101.1 | 104.0 | 107.2 | 115.6 | 119.2 | 120.1 | 118.5 | 154.3 |
| 1250  | 98.3  | 102.8 | 102.3 | 101.7 | 101.7 | 103.3 | 102.9 | 104.9 | 107.6 | 115.1 | 118.5 | 119.4 | 117.7 | 153.8 |
| 1600  | 100.0 | 99.9  | 100.1 | 99.0  | 100.7 | 102.1 | 103.7 | 105.7 | 108.6 | 114.4 | 118.0 | 118.0 | 116.2 | 153.0 |
| 2000  | 104.0 | 101.7 | 101.3 | 99.2  | 99.6  | 101.7 | 103.4 | 105.5 | 108.1 | 113.6 | 117.4 | 116.0 | 113.2 | 151.9 |
| 2500  | 103.3 | 103.8 | 104.1 | 102.1 | 102.4 | 102.3 | 103.2 | 106.6 | 109.5 | 115.3 | 117.0 | 114.1 | 111.1 | 152.1 |
| 3150  | 99.9  | 101.9 | 102.4 | 102.0 | 103.3 | 103.9 | 104.0 | 106.0 | 108.0 | 114.6 | 116.4 | 112.3 | 110.1 | 151.3 |
| 4000  | 97.5  | 98.7  | 100.3 | 100.6 | 102.2 | 104.1 | 104.0 | 106.6 | 108.5 | 113.4 | 113.9 | 110.5 | 108.5 | 150.1 |
| 5000  | 96.5  | 98.5  | 99.9  | 99.0  | 100.3 | 103.0 | 104.2 | 106.2 | 108.0 | 112.1 | 113.2 | 109.2 | 107.0 | 149.3 |
| 6300  | 94.9  | 97.2  | 98.8  | 98.2  | 100.2 | 101.9 | 103.2 | 106.4 | 107.9 | 111.0 | 111.1 | 107.9 | 105.4 | 148.4 |
| 8000  | 93.0  | 95.8  | 98.4  | 97.4  | 98.6  | 101.6 | 102.1 | 105.4 | 106.4 | 109.4 | 109.7 | 105.7 | 103.9 | 147.4 |
| 10000 | 93.0  | 97.1  | 98.4  | 97.8  | 99.0  | 101.2 | 102.2 | 104.1 | 105.8 | 109.1 | 108.3 | 105.6 | 103.4 | 147.4 |
| 12500 | 92.6  | 96.1  | 98.7  | 98.2  | 98.8  | 100.8 | 101.1 | 103.0 | 104.3 | 106.4 | 106.5 | 103.3 | 101.8 | 146.7 |
| 16000 | 90.5  | 95.6  | 96.7  | 96.9  | 98.7  | 99.2  | 99.5  | 101.4 | 101.9 | 104.2 | 104.2 | 101.3 | 99.4  | 146.1 |
| 20000 | 88.3  | 91.9  | 94.5  | 95.4  | 96.7  | 98.2  | 97.8  | 98.4  | 99.2  | 101.1 | 101.9 | 99.2  | 97.8  | 145.6 |
| 25000 | 85.1  | 90.0  | 92.0  | 92.9  | 94.8  | 96.7  | 96.1  | 95.8  | 97.7  | 99.8  | 99.5  | 96.9  | 93.5  | 146.0 |
| 31500 | 79.0  | 84.3  | 86.3  | 88.1  | 90.1  | 92.3  | 91.0  | 91.0  | 93.1  | 95.5  | 95.5  | 92.6  | 86.7  | 144.5 |
| 40000 | 75.1  | 81.4  | 83.9  | 84.6  | 87.2  | 89.3  | 87.9  | 88.7  | 90.9  | 93.3  | 94.4  | 89.9  | 84.3  | 146.2 |
| 50000 | 72.1  | 78.5  | 80.3  | 80.7  | 84.2  | 86.5  | 85.2  | 85.4  | 88.7  | 93.2  | 93.1  | 88.2  | 81.6  | 148.8 |
| 63000 | 68.3  | 74.9  | 77.2  | 77.0  | 81.0  | 83.4  | 81.1  | 84.0  | 86.4  | 92.1  | 93.2  | 86.4  | 78.6  | 152.7 |
| 80000 | 64.1  | 72.4  | 74.7  | 73.2  | 76.3  | 80.2  | 77.8  | 79.8  | 83.9  | 91.1  | 91.5  | 82.7  | 72.3  | 157.6 |
| CASPL | 110.5 | 111.8 | 112.4 | 111.5 | 112.8 | 114.4 | 115.8 | 117.3 | 119.5 | 126.2 | 128.8 | 128.8 | 127.7 | 165.7 |
| PNL   | 124.0 | 125.1 | 125.6 | 124.6 | 126.0 | 127.4 | 128.2 | 130.3 | 132.3 | 138.5 | 140.6 | 138.9 | 137.4 |       |
| PNLT  | 124.0 | 126.3 | 125.6 | 125.8 | 126.0 | 127.4 | 129.5 | 130.3 | 132.3 | 138.5 | 140.6 | 138.9 | 137.4 |       |
| DBA   | 185.3 | 193.3 | 195.5 | 194.4 | 197.7 | 201.2 | 198.9 | 201.0 | 204.7 | 211.6 | 212.2 | 203.8 | 194.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH192 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1638.0 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2435.6 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0515 TAPE = X0515F TEST PT NO = 0515 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0515 X05151

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 66.6 | 71.2 | 73.1 | 73.1 | 75.8  | 77.3  | 88.8  | 80.8  | 83.3  | 93.3  | 94.2  | 93.6  | 89.2 | 169.4 |
| 63    | 68.1 | 72.0 | 73.8 | 74.8 | 76.3  | 79.1  | 80.8  | 82.1  | 85.1  | 94.5  | 96.1  | 94.4  | 89.7 | 170.4 |
| 80    | 68.8 | 72.8 | 75.4 | 74.9 | 77.5  | 80.0  | 80.5  | 83.2  | 85.4  | 95.7  | 96.5  | 94.7  | 90.2 | 171.1 |
| 100   | 71.9 | 74.3 | 76.2 | 76.4 | 79.2  | 81.2  | 81.9  | 84.4  | 87.2  | 95.4  | 97.5  | 94.9  | 90.1 | 171.5 |
| 125   | 76.3 | 78.2 | 80.1 | 78.6 | 80.1  | 81.8  | 82.8  | 85.3  | 87.8  | 95.0  | 97.1  | 95.7  | 90.6 | 171.9 |
| 160   | 76.0 | 82.1 | 82.8 | 82.9 | 83.3  | 85.1  | 84.6  | 86.0  | 88.0  | 94.5  | 96.2  | 94.8  | 89.4 | 171.5 |
| 200   | 77.5 | 79.0 | 80.4 | 80.0 | 82.2  | 83.7  | 85.1  | 86.8  | 88.9  | 93.5  | 95.5  | 93.0  | 87.5 | 170.6 |
| 250   | 81.1 | 80.5 | 81.4 | 80.0 | 80.8  | 83.1  | 84.7  | 86.3  | 88.1  | 92.5  | 94.5  | 90.6  | 83.8 | 169.6 |
| 315   | 80.0 | 82.3 | 83.8 | 82.6 | 83.4  | 83.4  | 84.2  | 87.1  | 89.2  | 93.8  | 93.7  | 88.2  | 80.9 | 169.7 |
| 400   | 76.1 | 80.0 | 81.6 | 82.2 | 84.0  | 84.7  | 84.7  | 86.2  | 87.4  | 92.7  | 92.6  | 85.7  | 78.8 | 168.9 |
| 500   | 73.3 | 76.4 | 79.4 | 80.4 | 82.6  | 84.7  | 84.4  | 86.5  | 87.5  | 91.1  | 89.6  | 83.2  | 76.3 | 167.7 |
| 630   | 71.6 | 75.8 | 78.6 | 78.7 | 80.5  | 83.3  | 84.3  | 85.9  | 86.7  | 89.4  | 88.4  | 81.3  | 73.7 | 166.9 |
| 800   | 69.7 | 74.2 | 77.2 | 77.5 | 80.1  | 82.0  | 83.1  | 85.8  | 86.3  | 87.9  | 85.8  | 79.3  | 71.0 | 166.1 |
| 1000  | 67.3 | 73.5 | 76.6 | 76.6 | 78.3  | 81.6  | 81.8  | 84.6  | 84.5  | 86.0  | 84.0  | 76.4  | 68.3 | 165.0 |
| 1250  | 66.8 | 73.4 | 76.4 | 76.8 | 78.6  | 81.0  | 81.8  | 83.2  | 83.7  | 85.4  | 82.1  | 75.5  | 66.4 | 165.0 |
| 1600  | 65.5 | 71.8 | 76.2 | 76.9 | 78.1  | 80.3  | 80.4  | 81.7  | 81.8  | 82.1  | 79.4  | 71.9  | 62.5 | 164.3 |
| 2000  | 62.4 | 70.7 | 73.9 | 75.3 | 77.9  | 78.6  | 78.7  | 79.8  | 79.0  | 79.3  | 76.1  | 68.2  | 57.0 | 163.8 |
| 2500  | 58.5 | 65.8 | 70.8 | 73.1 | 75.3  | 77.1  | 76.4  | 76.1  | 75.4  | 75.0  | 72.0  | 63.3  | 50.6 | 163.2 |
| 3150  | 51.9 | 61.4 | 66.4 | 69.1 | 72.1  | 74.2  | 73.3  | 72.0  | 72.1  | 71.2  | 65.3  | 56.0  | 37.8 | 163.6 |
| 4000  | 39.6 | 51.0 | 56.9 | 61.0 | 64.4  | 66.9  | 65.2  | 64.0  | 63.6  | 62.2  | 56.1  | 42.8  | 16.5 | 162.1 |
| 5000  | 25.9 | 40.5 | 48.2 | 52.1 | 56.4  | 59.1  | 57.1  | 56.2  | 55.3  | 52.4  | 45.2  | 26.4  |      | 163.8 |
| 6300  | 5.2  | 23.4 | 32.6 | 37.4 | 43.4  | 46.4  | 44.3  | 42.1  | 41.0  | 38.1  | 26.1  | 0.5   |      | 166.4 |
| 8000  |      |      | 8.1  | 14.5 | 22.0  | 25.6  | 22.1  | 21.5  | 17.3  | 12.2  |       |       |      | 170.3 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 175.2 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 0ASPL | 87.0 | 89.8 | 91.6 | 91.4 | 93.0  | 94.8  | 96.1  | 97.3  | 98.9  | 104.8 | 105.9 | 103.5 | 98.4 | 182.9 |
| PNL   | 91.6 | 95.3 | 97.7 | 98.3 | 100.5 | 102.2 | 102.5 | 103.6 | 104.5 | 108.5 | 108.2 | 104.2 | 97.9 |       |
| PNLT  | 91.6 | 95.9 | 97.7 | 98.9 | 100.5 | 102.2 | 103.0 | 103.6 | 105.0 | 109.2 | 108.2 | 105.2 | 97.9 |       |
| DBA   | 80.3 | 84.1 | 86.8 | 87.2 | 89.1  | 91.0  | 91.4  | 93.2  | 93.8  | 96.7  | 96.1  | 91.0  | 84.5 |       |

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH192 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1638.0 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2435.6 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0515 TAPE = X05151 TEST PT NO = 0515 NC = AE056 CORR FAN SPEED = RPM

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50-53112

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0516 X0516C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.  | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.0 | 86.3 | 82.3  | 81.6 | 83.0 | 82.1  | 81.2  | 82.9  | 84.1  | 87.7  | 91.8  | 91.5  | 100.1 | 130.7 |
| 63    | 91.7 | 91.0 | 88.0  | 86.8 | 90.9 | 88.7  | 88.4  | 87.3  | 88.2  | 92.5  | 92.9  | 92.4  | 100.8 | 133.4 |
| 80    | 88.4 | 93.5 | 89.5  | 90.5 | 90.9 | 92.7  | 92.4  | 92.3  | 91.5  | 94.1  | 94.4  | 96.4  | 101.3 | 135.4 |
| 100   | 88.2 | 94.3 | 89.5  | 89.6 | 92.4 | 93.0  | 93.4  | 94.6  | 92.3  | 95.3  | 96.2  | 100.4 | 104.3 | 137.3 |
| 125   | 85.4 | 88.9 | 91.2  | 91.5 | 93.3 | 94.0  | 93.8  | 94.5  | 92.2  | 97.5  | 100.9 | 105.1 | 107.8 | 139.9 |
| 160   | 84.7 | 82.2 | 87.7  | 85.5 | 87.6 | 88.5  | 94.4  | 90.0  | 91.0  | 98.5  | 102.4 | 105.9 | 109.5 | 140.6 |
| 200   | 86.6 | 85.6 | 85.4  | 84.9 | 87.3 | 90.1  | 92.3  | 93.2  | 95.4  | 98.7  | 102.6 | 107.8 | 111.4 | 142.1 |
| 250   | 83.0 | 86.3 | 86.3  | 86.9 | 87.5 | 90.1  | 93.7  | 94.9  | 95.3  | 103.4 | 108.0 | 111.2 | 112.4 | 144.8 |
| 315   | 84.9 | 85.9 | 86.2  | 87.0 | 88.8 | 91.4  | 94.8  | 94.5  | 97.2  | 106.5 | 109.9 | 113.3 | 113.5 | 146.6 |
| 400   | 84.0 | 86.8 | 87.8  | 86.3 | 88.9 | 90.8  | 101.9 | 94.8  | 98.3  | 108.4 | 111.7 | 114.2 | 111.8 | 147.5 |
| 500   | 84.7 | 86.8 | 88.6  | 88.3 | 89.7 | 92.0  | 93.7  | 96.1  | 99.6  | 110.6 | 113.5 | 114.7 | 110.1 | 148.3 |
| 630   | 84.4 | 87.7 | 89.0  | 89.0 | 90.4 | 93.2  | 93.9  | 97.0  | 100.5 | 111.8 | 113.9 | 114.4 | 107.3 | 148.5 |
| 800   | 86.2 | 87.7 | 90.0  | 89.3 | 91.6 | 93.5  | 95.4  | 98.8  | 101.7 | 111.3 | 115.0 | 112.6 | 103.5 | 148.3 |
| 1000  | 89.2 | 89.7 | 91.0  | 90.0 | 92.9 | 94.2  | 96.1  | 99.8  | 103.2 | 111.8 | 113.7 | 111.1 | 100.8 | 147.7 |
| 1250  | 89.8 | 93.3 | 93.3  | 93.0 | 93.7 | 96.1  | 97.2  | 100.4 | 103.8 | 111.4 | 111.8 | 108.2 | 98.5  | 146.6 |
| 1600  | 94.3 | 94.9 | 95.1  | 93.0 | 94.7 | 96.8  | 98.4  | 101.2 | 104.8 | 111.2 | 111.3 | 105.2 | 97.7  | 146.3 |
| 2000  | 97.8 | 98.7 | 98.6  | 95.5 | 95.3 | 96.7  | 98.4  | 102.0 | 104.6 | 110.1 | 109.4 | 102.7 | 96.0  | 145.4 |
| 2500  | 96.8 | 99.0 | 100.1 | 98.8 | 98.9 | 98.3  | 98.7  | 103.1 | 105.5 | 111.5 | 109.5 | 101.8 | 95.1  | 146.4 |
| 3150  | 92.9 | 95.4 | 97.2  | 97.5 | 99.3 | 100.9 | 100.3 | 102.5 | 104.3 | 110.9 | 108.6 | 101.3 | 95.1  | 145.8 |
| 4000  | 91.5 | 93.2 | 94.8  | 94.5 | 97.4 | 99.9  | 100.5 | 103.1 | 105.2 | 109.7 | 106.9 | 100.2 | 94.0  | 145.1 |
| 5000  | 91.8 | 93.8 | 94.9  | 94.3 | 95.9 | 98.6  | 100.5 | 103.3 | 105.3 | 108.4 | 106.7 | 100.0 | 93.7  | 144.6 |
| 6300  | 92.0 | 94.0 | 94.6  | 93.9 | 96.3 | 98.2  | 99.5  | 103.4 | 105.2 | 107.6 | 105.1 | 98.7  | 92.9  | 144.3 |
| 8000  | 92.1 | 94.9 | 95.2  | 94.2 | 95.1 | 97.7  | 99.4  | 103.2 | 104.7 | 107.0 | 103.5 | 96.8  | 92.2  | 144.1 |
| 10000 | 94.3 | 97.0 | 98.1  | 96.7 | 97.3 | 99.1  | 100.1 | 102.5 | 105.2 | 107.5 | 103.0 | 97.2  | 92.0  | 145.1 |
| 12500 | 94.7 | 97.1 | 99.4  | 98.6 | 98.7 | 100.0 | 100.0 | 101.9 | 104.3 | 106.7 | 102.4 | 97.5  | 92.0  | 145.7 |
| 16000 | 91.8 | 95.9 | 96.6  | 97.2 | 98.3 | 99.5  | 98.8  | 100.7 | 102.5 | 104.3 | 101.0 | 96.6  | 91.1  | 145.5 |
| 20000 | 89.5 | 93.1 | 94.3  | 95.1 | 96.1 | 97.4  | 97.5  | 97.3  | 99.9  | 101.2 | 99.4  | 94.9  | 90.3  | 144.8 |
| 25000 | 87.0 | 90.9 | 92.2  | 93.1 | 95.2 | 96.6  | 96.5  | 96.2  | 98.5  | 100.1 | 96.2  | 92.8  | 87.0  | 145.7 |
| 31500 | 81.1 | 85.3 | 87.3  | 88.8 | 90.3 | 92.4  | 91.4  | 92.0  | 93.8  | 94.8  | 91.0  | 87.7  | 81.3  | 144.0 |
| 40000 | 77.4 | 81.9 | 84.2  | 85.6 | 87.3 | 89.7  | 89.5  | 89.4  | 91.2  | 92.2  | 87.9  | 84.2  | 77.9  | 145.4 |
| 50000 | 74.1 | 79.2 | 81.0  | 81.5 | 84.2 | 87.0  | 85.9  | 86.0  | 88.2  | 90.1  | 85.0  | 80.6  | 74.0  | 146.7 |
| 63000 | 69.6 | 75.6 | 76.7  | 77.2 | 80.3 | 82.7  | 80.9  | 82.7  | 85.9  | 87.5  | 83.1  | 76.5  | 68.4  | 148.8 |
| 80000 | 63.6 | 71.2 | 72.2  | 71.5 | 75.1 | 78.0  | 76.1  | 77.1  | 80.9  | 85.0  | 79.1  | 69.2  | 60.2  | 151.5 |

CASPL 105.8 108.1 108.8 108.1 109.4 110.9 112.1 114.3 116.6 122.5 123.3 122.6 120.5 161.0  
 PNL 118.4 120.5 121.3 120.3 121.8 123.5 124.4 126.8 129.0 134.8 134.1 130.8 127.4  
 PNLT 118.4 121.0 121.3 121.0 122.4 124.0 125.7 126.8 129.0 134.8 134.1 130.8 127.4  
 DBA 104.9 106.7 107.5 106.4 107.7 109.3 110.5 113.5 115.9 122.0 122.3 119.9 114.7

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VERTCL = ADH201 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX PLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1646.1 FPS AEB = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2444.3 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-100-0516 TAPE = X0516C TEST PT NO = 0516 NC = AE056 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0516 X0516F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 90.3  | 92.3  | 91.0  | 90.0  | 89.0  | 90.1  | 91.8  | 91.3  | 93.7  | 102.1 | 105.0 | 108.9 | 110.9 | 142.9 |
| 315   | 90.3  | 92.3  | 91.0  | 90.0  | 90.6  | 91.6  | 93.5  | 91.7  | 95.0  | 104.3 | 107.3 | 110.5 | 110.7 | 144.1 |
| 400   | 92.6  | 92.3  | 91.1  | 90.4  | 90.7  | 91.0  | 100.6 | 92.1  | 97.2  | 107.5 | 110.1 | 112.4 | 111.1 | 146.2 |
| 500   | 91.4  | 93.0  | 92.7  | 89.7  | 91.6  | 92.4  | 92.9  | 94.0  | 99.1  | 110.0 | 112.1 | 114.4 | 111.7 | 147.8 |
| 630   | 92.4  | 93.2  | 93.5  | 91.8  | 92.3  | 93.6  | 93.2  | 95.4  | 100.9 | 110.2 | 114.4 | 114.8 | 111.6 | 148.8 |
| 800   | 92.1  | 94.1  | 94.0  | 92.5  | 93.7  | 94.0  | 94.8  | 97.2  | 102.7 | 111.2 | 113.8 | 114.6 | 111.5 | 148.8 |
| 1000  | 93.9  | 94.2  | 95.1  | 92.9  | 95.0  | 94.9  | 95.6  | 96.2  | 103.1 | 110.6 | 111.7 | 111.6 | 109.2 | 147.1 |
| 1250  | 96.5  | 96.0  | 96.0  | 93.6  | 95.9  | 95.9  | 96.7  | 98.7  | 104.1 | 110.3 | 111.1 | 108.6 | 108.6 | 146.5 |
| 1600  | 96.7  | 99.3  | 98.2  | 96.5  | 96.7  | 97.9  | 98.1  | 99.7  | 104.0 | 109.4 | 109.3 | 106.1 | 107.0 | 145.6 |
| 2000  | 99.2  | 99.3  | 98.7  | 95.8  | 97.4  | 98.0  | 98.3  | 100.6 | 105.1 | 110.8 | 109.3 | 104.9 | 105.6 | 146.1 |
| 2500  | 104.2 | 104.1 | 102.8 | 98.5  | 101.4 | 99.9  | 98.9  | 101.9 | 104.5 | 110.8 | 109.2 | 105.3 | 106.6 | 147.0 |
| 3150  | 102.0 | 103.8 | 104.2 | 102.1 | 102.6 | 102.9 | 100.9 | 101.8 | 106.0 | 110.0 | 107.7 | 104.3 | 105.4 | 147.0 |
| 4000  | 100.4 | 102.1 | 102.0 | 101.9 | 101.1 | 102.5 | 101.7 | 103.0 | 106.2 | 108.9 | 107.7 | 104.3 | 105.6 | 146.6 |
| 5000  | 99.1  | 99.9  | 100.6 | 99.2  | 99.9  | 101.6 | 101.9 | 103.4 | 106.2 | 108.2 | 106.2 | 103.1 | 104.8 | 145.9 |
| 6300  | 99.2  | 100.5 | 100.7 | 99.2  | 100.3 | 101.2 | 101.1 | 103.6 | 106.0 | 107.9 | 104.9 | 101.5 | 104.4 | 145.8 |
| 8000  | 99.3  | 100.6 | 100.3 | 98.6  | 99.2  | 100.7 | 101.2 | 103.6 | 106.6 | 108.5 | 104.4 | 101.9 | 104.2 | 146.3 |
| 10000 | 99.2  | 101.3 | 100.7 | 98.8  | 101.4 | 102.1 | 101.9 | 102.9 | 106.3 | 108.4 | 104.7 | 103.2 | 105.3 | 147.1 |
| 12500 | 101.2 | 103.2 | 103.3 | 100.9 | 102.8 | 103.0 | 102.1 | 102.8 | 105.6 | 107.1 | 104.5 | 103.6 | 105.6 | 148.2 |
| 16000 | 101.1 | 102.7 | 104.1 | 102.4 | 102.3 | 102.5 | 101.1 | 101.7 | 104.1 | 105.2 | 104.0 | 102.8 | 105.4 | 148.9 |
| 20000 | 97.7  | 101.1 | 100.9 | 100.5 | 100.2 | 100.4 | 99.9  | 98.8  | 103.0 | 104.4 | 101.2 | 101.2 | 102.9 | 148.7 |
| 25000 | 94.8  | 97.7  | 98.0  | 97.8  | 99.8  | 99.6  | 98.8  | 97.5  | 99.1  | 99.9  | 96.8  | 97.0  | 98.1  | 148.4 |
| 31500 | 94.3  | 97.0  | 96.8  | 96.2  | 94.9  | 95.4  | 93.7  | 93.3  | 97.3  | 98.1  | 94.5  | 94.4  | 95.8  | 148.9 |
| 40000 | 87.6  | 90.5  | 91.1  | 91.0  | 91.9  | 92.7  | 91.8  | 90.7  | 93.9  | 95.4  | 90.8  | 89.8  | 90.9  | 149.0 |
| 50000 | 83.5  | 86.8  | 87.6  | 87.4  | 88.8  | 90.0  | 87.9  | 86.7  | 92.0  | 93.2  | 89.1  | 85.4  | 84.3  | 150.4 |
| 63000 | 79.2  | 83.1  | 83.5  | 82.4  | 84.9  | 85.7  | 82.7  | 83.0  | 88.5  | 92.0  | 86.5  | 79.6  | 77.5  | 152.5 |
| 80000 | 73.2  | 78.0  | 77.6  | 76.6  | 79.7  | 81.0  | 77.8  | 77.3  | 78.7  | 82.2  | 76.6  | 69.8  | 67.7  | 152.0 |
| GASPL | 111.9 | 113.3 | 113.3 | 111.5 | 112.4 | 113.0 | 112.7 | 113.8 | 117.3 | 121.9 | 122.3 | 122.4 | 121.4 | 162.3 |
| PNL   | 124.2 | 125.1 | 125.1 | 123.1 | 123.9 | 124.5 | 124.1 | 125.5 | 128.9 | 133.6 | 132.7 | 130.5 | 131.0 |       |
| PNLT  | 125.4 | 125.1 | 125.1 | 123.1 | 123.9 | 124.5 | 125.4 | 125.5 | 128.9 | 133.6 | 132.7 | 130.5 | 131.0 |       |
| DBA   | 195.1 | 199.6 | 199.4 | 198.5 | 201.3 | 202.4 | 199.4 | 199.0 | 202.2 | 205.5 | 200.0 | 193.7 | 192.0 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH201 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1646.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2444.3 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0516 TAPE = X0516F TEST PT NO = 0516 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0516 X05161

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.7 | 72.0 | 71.9  | 71.8  | 72.6  | 73.1  | 82.5  | 73.6  | 78.0  | 87.2  | 88.2  | 88.4 | 83.8 | 163.8 |
| 63    | 69.6 | 72.7 | 73.4  | 71.2  | 73.5  | 74.4  | 74.8  | 75.5  | 79.9  | 89.6  | 90.3  | 90.3 | 84.3 | 165.4 |
| 80    | 70.5 | 72.8 | 74.3  | 73.2  | 74.2  | 75.6  | 75.1  | 76.8  | 81.6  | 89.9  | 92.5  | 90.6 | 84.1 | 166.4 |
| 100   | 70.1 | 73.7 | 74.7  | 73.9  | 75.5  | 75.9  | 76.6  | 78.6  | 83.4  | 90.8  | 91.8  | 90.3 | 83.8 | 166.4 |
| 125   | 71.8 | 73.7 | 75.6  | 74.2  | 76.7  | 76.7  | 77.3  | 79.5  | 83.7  | 90.0  | 89.6  | 87.2 | 81.3 | 164.7 |
| 160   | 74.2 | 75.3 | 76.4  | 74.8  | 77.5  | 78.6  | 78.3  | 79.9  | 84.6  | 89.6  | 88.8  | 83.9 | 80.3 | 164.1 |
| 200   | 74.2 | 78.4 | 78.4  | 77.5  | 78.1  | 79.5  | 79.5  | 80.7  | 84.3  | 88.5  | 88.8  | 81.2 | 78.2 | 163.2 |
| 250   | 76.4 | 78.1 | 78.7  | 76.6  | 78.7  | 79.3  | 79.5  | 81.4  | 85.1  | 89.6  | 86.4  | 79.5 | 76.3 | 163.7 |
| 315   | 81.0 | 82.6 | 82.5  | 79.1  | 82.4  | 81.1  | 79.9  | 82.5  | 84.2  | 89.3  | 85.9  | 79.3 | 76.4 | 164.6 |
| 400   | 78.2 | 81.8 | 83.5  | 82.3  | 83.2  | 83.7  | 81.5  | 82.0  | 85.4  | 88.1  | 83.9  | 77.7 | 74.2 | 164.6 |
| 500   | 76.2 | 79.8 | 81.8  | 81.8  | 81.5  | 83.0  | 82.1  | 82.9  | 85.2  | 86.6  | 83.5  | 77.1 | 73.4 | 164.2 |
| 630   | 74.3 | 77.2 | 79.3  | 78.8  | 80.0  | 81.9  | 82.1  | 83.0  | 84.9  | 85.5  | 81.5  | 75.2 | 71.5 | 163.5 |
| 800   | 74.0 | 77.4 | 79.1  | 78.5  | 80.2  | 81.3  | 81.0  | 83.0  | 84.4  | 84.8  | 79.7  | 72.9 | 70.0 | 163.4 |
| 1000  | 73.6 | 77.2 | 78.5  | 77.8  | 78.9  | 80.6  | 81.0  | 82.8  | 84.8  | 85.2  | 78.8  | 72.6 | 68.7 | 163.9 |
| 1250  | 73.0 | 77.6 | 78.7  | 77.8  | 81.0  | 81.9  | 81.5  | 81.9  | 84.3  | 84.7  | 78.5  | 73.1 | 68.4 | 164.7 |
| 1600  | 74.1 | 78.9 | 80.8  | 79.6  | 82.1  | 82.5  | 81.4  | 81.2  | 83.1  | 82.8  | 77.5  | 72.1 | 66.3 | 165.8 |
| 2000  | 73.0 | 77.8 | 81.3  | 80.6  | 81.5  | 81.9  | 80.2  | 80.2  | 81.2  | 80.3  | 76.0  | 69.7 | 63.0 | 166.5 |
| 2500  | 67.9 | 75.0 | 77.2  | 78.3  | 78.8  | 79.3  | 78.5  | 76.6  | 79.2  | 78.3  | 71.4  | 65.3 | 55.6 | 166.3 |
| 3150  | 61.6 | 69.2 | 72.3  | 74.0  | 77.1  | 77.1  | 76.0  | 73.8  | 73.5  | 71.4  | 63.6  | 56.1 | 42.4 | 166.0 |
| 4000  | 54.9 | 63.7 | 67.4  | 69.1  | 69.1  | 70.1  | 68.0  | 66.2  | 67.9  | 64.8  | 55.1  | 44.6 | 25.6 | 166.5 |
| 5000  | 38.4 | 49.7 | 55.4  | 58.5  | 61.2  | 62.5  | 61.1  | 58.2  | 58.2  | 54.5  | 41.6  | 26.3 |      | 166.6 |
| 6300  | 16.5 | 31.7 | 39.8  | 44.1  | 48.0  | 49.9  | 47.1  | 43.4  | 44.3  | 38.1  | 22.1  |      |      | 168.0 |
| 8000  |      | 3.2  | 14.4  | 19.9  | 26.0  | 27.9  | 23.7  | 20.5  | 19.4  | 12.1  |       |      |      | 170.1 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |      |      | 169.6 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| CASPL | 87.3 | 90.4 | 91.8  | 90.8  | 92.4  | 93.1  | 92.8  | 93.4  | 96.2  | 100.3 | 99.5  | 97.2 | 91.7 | 179.7 |
| PNL   | 94.4 | 98.8 | 101.3 | 100.9 | 102.2 | 102.8 | 101.9 | 101.9 | 103.9 | 105.4 | 101.9 | 98.0 | 92.3 |       |
| PNLT  | 95.5 | 99.4 | 101.9 | 101.4 | 102.2 | 103.3 | 102.4 | 101.9 | 104.5 | 105.9 | 101.9 | 98.0 | 92.3 |       |
| DBA   | 83.7 | 87.7 | 89.6  | 89.1  | 90.6  | 91.3  | 90.6  | 91.1  | 93.1  | 94.0  | 89.7  | 84.0 | 79.8 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH201 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1646.1 FPS AE8 = 4.0 SQ IN  
FNRAIB = LBS XNLR = RPM XNHR = RPM V18 = 2444.3 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0516 TAPE = X05161 TEST PT NO = 0516 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0517 X0517C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.5  | 84.6  | 81.6  | 80.4  | 83.0  | 82.8  | 86.2  | 84.6  | 86.8  | 87.4  | 93.3  | 94.0  | 94.9  | 129.9 |
| 63    | 92.4  | 92.0  | 86.2  | 86.5  | 91.4  | 90.2  | 93.6  | 89.8  | 92.7  | 93.8  | 99.7  | 99.1  | 99.8  | 136.0 |
| 80    | 89.7  | 94.2  | 90.2  | 90.5  | 91.6  | 94.0  | 95.9  | 92.5  | 93.7  | 95.3  | 95.9  | 98.4  | 101.0 | 136.6 |
| 100   | 90.2  | 97.0  | 92.3  | 92.8  | 94.4  | 95.0  | 95.7  | 96.8  | 94.5  | 99.1  | 99.7  | 103.2 | 105.6 | 139.7 |
| 125   | 86.7  | 90.7  | 93.2  | 93.0  | 95.1  | 96.2  | 95.6  | 96.5  | 95.7  | 100.5 | 104.7 | 108.1 | 109.8 | 142.6 |
| 160   | 87.4  | 86.5  | 91.0  | 89.0  | 90.9  | 92.0  | 100.6 | 94.0  | 94.2  | 102.0 | 105.9 | 108.9 | 111.5 | 143.6 |
| 200   | 89.3  | 88.4  | 89.4  | 89.7  | 92.0  | 94.6  | 96.8  | 96.4  | 99.1  | 103.4 | 107.1 | 111.5 | 114.2 | 145.6 |
| 250   | 88.3  | 92.1  | 92.1  | 92.4  | 92.2  | 94.3  | 96.5  | 98.9  | 100.1 | 108.1 | 112.5 | 115.5 | 115.9 | 149.0 |
| 315   | 88.1  | 90.9  | 91.4  | 91.0  | 94.3  | 96.9  | 99.6  | 99.2  | 102.2 | 110.7 | 114.1 | 117.1 | 117.2 | 150.6 |
| 400   | 89.2  | 92.0  | 92.8  | 91.8  | 93.9  | 95.3  | 107.4 | 99.6  | 103.3 | 113.6 | 116.0 | 118.2 | 116.8 | 152.0 |
| 500   | 90.5  | 92.3  | 93.3  | 93.8  | 94.9  | 97.0  | 97.0  | 100.3 | 104.3 | 114.9 | 118.0 | 119.2 | 117.3 | 153.1 |
| 630   | 90.2  | 93.5  | 95.0  | 94.3  | 95.6  | 98.0  | 98.6  | 101.8 | 105.0 | 116.5 | 118.9 | 120.1 | 118.0 | 154.1 |
| 800   | 94.4  | 94.7  | 96.0  | 95.3  | 97.4  | 99.0  | 100.1 | 103.3 | 106.7 | 116.8 | 119.7 | 119.9 | 118.3 | 154.5 |
| 1000  | 98.4  | 99.7  | 100.2 | 98.0  | 98.9  | 99.7  | 101.1 | 104.0 | 107.7 | 115.6 | 118.9 | 121.1 | 118.3 | 154.5 |
| 1250  | 98.5  | 102.8 | 102.6 | 102.2 | 102.7 | 103.8 | 103.2 | 105.1 | 108.3 | 115.1 | 119.0 | 120.2 | 118.5 | 154.4 |
| 1600  | 101.0 | 100.9 | 100.8 | 99.5  | 101.0 | 102.3 | 103.2 | 106.0 | 108.8 | 114.9 | 119.3 | 118.7 | 116.2 | 153.8 |
| 2000  | 105.5 | 103.7 | 103.3 | 100.5 | 99.8  | 101.9 | 103.2 | 106.2 | 108.6 | 114.6 | 118.4 | 116.7 | 113.5 | 152.8 |
| 2500  | 103.8 | 104.5 | 104.8 | 103.6 | 103.7 | 103.1 | 103.5 | 107.1 | 109.2 | 115.8 | 117.3 | 115.3 | 111.3 | 152.6 |
| 3150  | 100.4 | 102.7 | 103.9 | 102.7 | 104.0 | 105.1 | 104.2 | 106.5 | 108.5 | 114.9 | 116.6 | 113.3 | 110.6 | 151.8 |
| 4000  | 98.3  | 99.4  | 101.1 | 100.7 | 102.9 | 104.9 | 104.3 | 106.6 | 108.5 | 113.9 | 114.2 | 111.7 | 108.5 | 150.5 |
| 5000  | 97.3  | 99.5  | 100.6 | 99.5  | 101.3 | 103.5 | 104.7 | 106.5 | 109.0 | 112.3 | 113.4 | 110.7 | 107.5 | 149.8 |
| 6300  | 95.7  | 98.2  | 99.5  | 98.7  | 101.2 | 102.4 | 103.7 | 107.2 | 107.9 | 111.3 | 111.8 | 108.9 | 106.1 | 149.0 |
| 8000  | 94.0  | 98.3  | 99.2  | 98.4  | 99.6  | 101.9 | 102.3 | 106.2 | 107.1 | 110.1 | 109.7 | 106.5 | 104.6 | 148.0 |
| 10000 | 93.2  | 97.9  | 99.4  | 98.5  | 99.7  | 102.2 | 102.7 | 104.9 | 106.3 | 109.3 | 108.8 | 105.8 | 103.6 | 147.9 |
| 12500 | 93.1  | 96.1  | 99.2  | 98.7  | 99.3  | 101.8 | 101.1 | 103.2 | 104.3 | 106.9 | 106.5 | 104.1 | 101.8 | 147.0 |
| 16000 | 90.7  | 95.3  | 96.7  | 97.4  | 99.0  | 100.2 | 100.0 | 101.1 | 101.9 | 104.2 | 104.9 | 102.3 | 100.4 | 146.5 |
| 20000 | 87.8  | 92.4  | 94.5  | 95.4  | 96.7  | 98.5  | 98.0  | 98.4  | 99.7  | 101.6 | 102.6 | 99.7  | 98.1  | 145.9 |
| 25000 | 84.9  | 89.7  | 92.0  | 92.9  | 95.1  | 96.7  | 96.6  | 96.6  | 98.0  | 100.5 | 99.5  | 97.2  | 94.5  | 146.3 |
| 31500 | 78.5  | 84.0  | 86.3  | 88.1  | 89.9  | 92.3  | 90.7  | 91.0  | 93.3  | 96.7  | 95.5  | 93.1  | 88.2  | 144.8 |
| 40000 | 75.3  | 81.4  | 83.9  | 85.4  | 87.4  | 89.1  | 88.6  | 88.7  | 91.7  | 95.0  | 93.9  | 90.6  | 84.8  | 146.7 |
| 50000 | 71.9  | 79.0  | 80.6  | 80.7  | 84.2  | 86.2  | 85.4  | 85.7  | 89.0  | 94.5  | 92.3  | 89.2  | 82.4  | 149.2 |
| 63000 | 68.8  | 75.1  | 77.9  | 77.3  | 81.0  | 83.9  | 82.1  | 83.0  | 87.1  | 93.8  | 93.2  | 87.9  | 79.9  | 153.5 |
| 80000 | 64.1  | 73.1  | 75.4  | 72.7  | 76.6  | 80.2  | 78.3  | 79.3  | 85.9  | 92.1  | 91.5  | 84.5  | 73.3  | 158.3 |

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OASPL 111.3 112.6 113.2 112.2 113.4 114.9 116.0 117.7 119.9 126.6 129.2 129.7 128.0 166.2  
PNL 124.5 125.9 126.4 125.3 126.7 128.0 128.5 130.5 132.6 138.8 140.9 139.9 137.7  
PNLT 125.6 126.6 126.4 126.5 126.7 128.0 129.9 130.5 132.6 138.8 140.9 139.9 137.7  
DBA 111.8 112.6 113.1 111.9 113.0 114.3 114.9 117.4 119.7 126.2 128.8 128.8 126.5

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADP193 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SR59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1639.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2456.4 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0517 TAPE = X0517C TEST PT NO = 0517 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0517 X0517F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.5  | 84.6  | 81.6  | 80.4  | 83.0  | 82.8  | 86.2  | 84.6  | 86.8  | 87.4  | 93.3  | 94.0  | 94.9  | 129.9 |
| 63    | 92.4  | 92.0  | 86.2  | 86.5  | 91.4  | 90.2  | 93.6  | 89.8  | 92.7  | 93.8  | 99.7  | 99.1  | 99.8  | 136.0 |
| 80    | 89.7  | 94.2  | 90.2  | 90.5  | 91.6  | 94.0  | 95.9  | 92.5  | 93.7  | 95.3  | 95.9  | 98.4  | 101.0 | 136.6 |
| 100   | 90.2  | 97.0  | 92.3  | 92.8  | 94.4  | 95.0  | 95.7  | 96.8  | 94.5  | 99.1  | 99.7  | 103.2 | 105.6 | 139.7 |
| 125   | 86.7  | 90.7  | 93.2  | 93.0  | 95.1  | 96.2  | 95.6  | 96.5  | 95.7  | 100.5 | 104.7 | 108.1 | 109.8 | 142.6 |
| 160   | 87.4  | 86.5  | 91.0  | 89.0  | 90.9  | 92.0  | 100.6 | 94.0  | 94.2  | 102.0 | 105.9 | 108.9 | 111.5 | 143.6 |
| 200   | 89.3  | 88.4  | 89.4  | 89.7  | 92.0  | 94.6  | 96.8  | 96.4  | 99.1  | 103.4 | 107.1 | 111.5 | 114.2 | 145.6 |
| 250   | 88.3  | 92.1  | 92.1  | 92.4  | 92.2  | 94.3  | 96.5  | 98.9  | 100.1 | 108.1 | 112.5 | 115.5 | 115.9 | 149.0 |
| 315   | 88.1  | 90.9  | 91.4  | 91.0  | 94.3  | 96.9  | 99.6  | 99.2  | 102.2 | 110.7 | 114.1 | 117.1 | 117.2 | 150.6 |
| 400   | 89.2  | 92.0  | 92.8  | 91.8  | 93.9  | 95.3  | 107.4 | 99.6  | 103.3 | 113.6 | 116.0 | 118.2 | 116.8 | 152.0 |
| 500   | 90.5  | 92.3  | 93.3  | 93.6  | 94.9  | 97.0  | 98.7  | 100.3 | 104.3 | 114.9 | 118.0 | 119.2 | 117.3 | 153.1 |
| 630   | 90.2  | 93.5  | 95.0  | 94.3  | 95.6  | 96.0  | 98.6  | 101.8 | 105.0 | 116.5 | 118.9 | 120.1 | 118.0 | 154.1 |
| 800   | 94.4  | 94.7  | 96.0  | 95.3  | 97.4  | 99.0  | 100.1 | 103.3 | 106.7 | 116.8 | 119.7 | 119.9 | 118.3 | 154.5 |
| 1000  | 98.4  | 99.7  | 100.2 | 98.0  | 98.9  | 99.7  | 101.1 | 104.0 | 107.7 | 115.6 | 118.9 | 121.1 | 118.3 | 154.5 |
| 1250  | 98.5  | 102.8 | 102.6 | 102.2 | 102.7 | 103.8 | 103.2 | 105.1 | 108.3 | 115.1 | 119.0 | 120.2 | 118.5 | 154.4 |
| 1600  | 101.0 | 100.9 | 100.8 | 99.5  | 101.0 | 102.3 | 103.2 | 106.0 | 108.8 | 114.9 | 119.3 | 118.7 | 116.2 | 153.8 |
| 2000  | 105.5 | 103.7 | 103.3 | 100.5 | 99.8  | 101.9 | 103.2 | 106.2 | 108.6 | 114.6 | 118.4 | 116.7 | 113.5 | 152.8 |
| 2500  | 103.8 | 104.5 | 104.8 | 103.6 | 103.7 | 103.1 | 103.5 | 107.1 | 109.2 | 115.8 | 117.3 | 115.3 | 111.3 | 152.6 |
| 3150  | 100.4 | 102.7 | 103.9 | 102.7 | 104.0 | 105.1 | 104.2 | 106.5 | 108.5 | 114.9 | 116.6 | 113.3 | 110.6 | 151.8 |
| 4000  | 98.3  | 99.4  | 101.1 | 100.7 | 102.9 | 104.9 | 104.3 | 106.6 | 108.5 | 113.9 | 114.2 | 111.7 | 108.5 | 150.5 |
| 5000  | 97.3  | 99.5  | 100.6 | 99.5  | 101.3 | 103.5 | 104.7 | 106.5 | 109.0 | 112.3 | 113.4 | 110.7 | 107.5 | 149.8 |
| 6300  | 95.7  | 98.2  | 99.5  | 98.7  | 101.2 | 102.4 | 103.7 | 107.2 | 107.9 | 111.3 | 111.8 | 108.9 | 106.1 | 149.0 |
| 8000  | 94.0  | 98.3  | 99.2  | 98.4  | 99.6  | 101.9 | 102.3 | 106.2 | 107.1 | 110.1 | 109.7 | 106.5 | 104.6 | 148.0 |
| 10000 | 93.2  | 97.9  | 99.4  | 98.5  | 99.7  | 102.2 | 102.7 | 104.9 | 106.3 | 109.3 | 108.8 | 105.8 | 103.6 | 147.9 |
| 12500 | 93.1  | 96.1  | 99.2  | 98.7  | 99.3  | 101.8 | 101.1 | 103.2 | 104.3 | 106.9 | 106.5 | 104.1 | 101.8 | 147.0 |
| 16000 | 90.7  | 95.3  | 96.7  | 97.4  | 99.0  | 100.2 | 100.0 | 101.1 | 101.9 | 104.2 | 104.9 | 102.3 | 100.4 | 146.5 |
| 20000 | 87.8  | 92.4  | 94.5  | 95.4  | 96.7  | 98.5  | 98.0  | 98.4  | 99.7  | 101.6 | 102.6 | 99.7  | 98.1  | 145.9 |
| 25000 | 84.9  | 89.7  | 92.0  | 92.9  | 95.1  | 96.7  | 96.6  | 96.6  | 98.0  | 100.5 | 99.5  | 97.2  | 94.5  | 146.3 |
| 31500 | 78.5  | 84.0  | 86.3  | 88.1  | 89.9  | 92.3  | 90.7  | 91.0  | 93.3  | 96.7  | 95.5  | 93.1  | 88.2  | 144.8 |
| 40000 | 75.3  | 81.4  | 83.9  | 85.4  | 87.4  | 89.1  | 88.6  | 88.7  | 91.7  | 95.0  | 93.9  | 90.6  | 84.8  | 146.7 |
| 50000 | 71.9  | 79.0  | 80.6  | 80.7  | 84.2  | 86.2  | 85.4  | 85.7  | 89.0  | 94.5  | 92.3  | 89.2  | 82.4  | 149.2 |
| 63000 | 68.8  | 75.1  | 77.9  | 77.3  | 81.0  | 83.9  | 82.1  | 83.0  | 87.1  | 93.8  | 93.2  | 87.9  | 79.9  | 153.5 |
| 80000 | 64.1  | 73.1  | 75.4  | 72.7  | 76.6  | 80.2  | 78.3  | 79.3  | 85.9  | 92.1  | 91.5  | 84.5  | 73.3  | 158.3 |
| 0ASPL | 111.3 | 112.6 | 113.2 | 112.2 | 113.4 | 114.9 | 116.0 | 117.7 | 119.9 | 126.6 | 129.2 | 129.7 | 128.0 | 166.2 |
| PNL   | 124.5 | 125.9 | 126.4 | 125.3 | 126.7 | 128.0 | 128.5 | 130.5 | 132.6 | 138.8 | 140.9 | 139.9 | 137.7 |       |
| PNLT  | 125.6 | 126.6 | 126.4 | 126.5 | 126.7 | 128.0 | 129.9 | 130.5 | 132.6 | 138.8 | 140.9 | 139.9 | 137.7 |       |
| DBA   | 185.4 | 193.9 | 196.3 | 194.1 | 197.9 | 201.3 | 199.5 | 200.4 | 206.5 | 212.7 | 212.2 | 205.4 | 195.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH193 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1639.2 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2456.4 FPS AE18 = 20.2 SQ IN

RUMPT = 82F-ZER-0517 TAPE = X0517F TEST PT NO = 0517 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0517 X05171

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| FREQ  |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50    | 67.4 | 71.7 | 73.6 | 73.3 | 75.8  | 77.3  | 89.3  | 81.1  | 84.1  | 93.3  | 94.2  | 94.1  | 89.5 | 169.6 |
| 63    | 68.6 | 72.0 | 74.1 | 75.3 | 76.8  | 79.1  | 80.6  | 81.8  | 85.1  | 94.5  | 96.1  | 95.1  | 89.9 | 170.7 |
| 80    | 68.3 | 73.1 | 75.7 | 75.7 | 77.5  | 80.0  | 80.5  | 83.2  | 85.7  | 96.2  | 97.0  | 96.0  | 90.5 | 171.7 |
| 100   | 72.4 | 74.3 | 76.7 | 76.7 | 79.2  | 80.9  | 81.9  | 84.7  | 87.4  | 96.4  | 97.7  | 95.6  | 90.6 | 172.1 |
| 125   | 76.3 | 79.2 | 80.8 | 79.3 | 80.6  | 81.6  | 82.8  | 85.3  | 88.3  | 95.0  | 96.8  | 96.7  | 90.4 | 172.1 |
| 160   | 76.2 | 82.1 | 83.0 | 83.4 | 84.3  | 85.6  | 84.8  | 86.3  | 88.8  | 94.5  | 96.7  | 95.6  | 90.2 | 172.0 |
| 200   | 78.5 | 80.0 | 81.1 | 80.5 | 82.4  | 83.9  | 84.5  | 87.0  | 89.1  | 94.0  | 96.8  | 93.8  | 87.5 | 171.4 |
| 250   | 82.6 | 82.5 | 83.4 | 81.3 | 81.1  | 83.3  | 84.4  | 87.0  | 88.6  | 93.5  | 95.5  | 91.3  | 84.1 | 170.4 |
| 315   | 80.5 | 83.0 | 84.5 | 84.1 | 84.7  | 84.2  | 84.5  | 87.6  | 88.9  | 94.3  | 94.0  | 89.4  | 81.1 | 170.2 |
| 400   | 76.6 | 80.8 | 83.1 | 82.9 | 84.7  | 85.9  | 84.9  | 86.7  | 87.9  | 93.0  | 92.8  | 86.7  | 79.3 | 169.4 |
| 500   | 74.0 | 77.2 | 80.1 | 80.7 | 83.3  | 85.5  | 84.7  | 86.5  | 87.5  | 91.6  | 89.9  | 84.5  | 76.3 | 168.1 |
| 630   | 72.5 | 76.8 | 79.3 | 79.2 | 81.5  | 83.8  | 84.8  | 86.1  | 87.7  | 89.6  | 88.7  | 82.9  | 74.2 | 167.4 |
| 800   | 70.4 | 75.2 | 77.9 | 78.0 | 81.1  | 82.5  | 83.6  | 86.5  | 86.3  | 88.2  | 86.6  | 80.3  | 71.7 | 166.6 |
| 1000  | 68.3 | 75.0 | 77.3 | 77.6 | 79.3  | 81.8  | 82.1  | 85.3  | 85.3  | 86.8  | 84.0  | 77.2  | 69.1 | 165.6 |
| 1250  | 67.0 | 74.2 | 77.4 | 77.6 | 79.3  | 82.0  | 82.3  | 83.9  | 84.2  | 85.6  | 82.6  | 75.7  | 66.6 | 165.5 |
| 1600  | 66.0 | 71.8 | 76.7 | 77.4 | 78.6  | 81.3  | 80.4  | 81.9  | 81.8  | 82.6  | 79.4  | 72.6  | 62.5 | 164.6 |
| 2000  | 62.7 | 70.4 | 73.9 | 75.8 | 78.2  | 79.6  | 79.2  | 79.6  | 79.0  | 79.3  | 76.9  | 69.2  | 58.0 | 164.1 |
| 2500  | 58.0 | 66.3 | 70.8 | 73.1 | 75.3  | 77.3  | 76.6  | 76.1  | 75.9  | 75.5  | 72.8  | 63.8  | 50.8 | 163.5 |
| 3150  | 51.7 | 61.1 | 66.4 | 69.1 | 72.3  | 74.2  | 73.8  | 72.8  | 72.4  | 72.0  | 66.3  | 56.3  | 38.8 | 163.9 |
| 4000  | 39.1 | 50.8 | 56.9 | 61.0 | 64.1  | 66.9  | 65.0  | 64.0  | 63.9  | 63.4  | 56.1  | 43.3  | 18.0 | 162.4 |
| 5000  | 26.1 | 40.5 | 48.2 | 52.9 | 56.7  | 58.9  | 57.9  | 56.2  | 56.0  | 54.2  | 44.7  | 27.1  |      | 164.3 |
| 6300  | 4.9  | 23.9 | 32.9 | 37.4 | 43.4  | 46.2  | 44.6  | 42.4  | 41.3  | 39.4  | 25.4  | 1.5   |      | 166.8 |
| 8000  |      |      | 8.8  | 14.8 | 22.0  | 26.1  | 23.1  | 20.5  | 18.0  | 14.0  |       |       |      | 171.1 |
| 10000 |      |      |      |      |       |       |       |       |       |       |       |       |      | 175.9 |
| 12500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |       |       |       |       |       |       |       |       |      |       |
| 8ASPL | 87.8 | 90.6 | 92.4 | 92.1 | 93.7  | 95.3  | 96.3  | 97.6  | 99.2  | 105.2 | 106.3 | 104.4 | 98.7 | 183.5 |
| PNL   | 92.5 | 96.0 | 98.4 | 98.9 | 101.0 | 102.7 | 102.8 | 103.9 | 104.7 | 109.0 | 108.8 | 105.0 | 98.3 |       |
| PNLT  | 93.0 | 96.0 | 98.4 | 99.4 | 101.0 | 102.7 | 102.8 | 103.9 | 104.7 | 109.6 | 108.8 | 106.0 | 98.3 |       |
| DBA   | 81.1 | 84.9 | 87.6 | 87.8 | 89.8  | 91.7  | 91.7  | 93.6  | 94.2  | 97.2  | 96.5  | 92.0  | 84.8 |       |

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11-81113

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH193 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 72.00 PAMB HG = 29.50 RELHUM = 90.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1639.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2456.4 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-2ER-0517 TAPE = X05171 TEST PT NO = 0517 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0518 X0518C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

|                                                           | 40.            | 50.   | 60.       | 70.   | 80.        | 90.   | 100.       | 110.  | 120.           | 130.  | 140.           | 150.  | 160.             | PWL   |
|-----------------------------------------------------------|----------------|-------|-----------|-------|------------|-------|------------|-------|----------------|-------|----------------|-------|------------------|-------|
| FREQ                                                      |                |       |           |       |            |       |            |       |                |       |                |       |                  |       |
| 50                                                        | 88.5           | 87.6  | 82.3      | 83.1  | 83.2       | 82.8  | 81.2       | 83.4  | 87.3           | 87.4  | 92.0           | 91.7  | 99.6             | 130.9 |
| 63                                                        | 93.2           | 92.7  | 88.0      | 89.0  | 91.4       | 89.2  | 87.6       | 88.5  | 92.7           | 90.5  | 93.7           | 93.4  | 100.0            | 134.0 |
| 80                                                        | 89.2           | 94.0  | 90.2      | 90.8  | 91.4       | 93.0  | 92.4       | 91.8  | 92.7           | 94.3  | 94.9           | 96.6  | 102.5            | 135.9 |
| 100                                                       | 88.7           | 94.8  | 90.3      | 90.3  | 92.9       | 94.0  | 94.2       | 95.1  | 93.0           | 96.6  | 97.0           | 101.4 | 105.6            | 138.2 |
| 125                                                       | 86.7           | 89.9  | 92.0      | 92.0  | 94.1       | 94.7  | 94.6       | 95.0  | 93.2           | 98.0  | 101.7          | 106.1 | 109.0            | 140.9 |
| 160                                                       | 85.7           | 82.5  | 88.0      | 86.3  | 88.4       | 89.5  | 94.5       | 91.0  | 91.5           | 98.8  | 102.7          | 106.4 | 110.0            | 141.1 |
| 200                                                       | 87.3           | 85.9  | 85.6      | 85.2  | 88.3       | 89.9  | 93.3       | 93.7  | 96.1           | 99.2  | 102.3          | 108.3 | 111.9            | 142.6 |
| 250                                                       | 83.3           | 87.1  | 86.6      | 87.4  | 88.2       | 90.6  | 93.7       | 95.1  | 95.8           | 103.9 | 108.3          | 112.2 | 112.9            | 145.4 |
| 315                                                       | 85.6           | 86.9  | 86.9      | 87.2  | 89.6       | 91.9  | 95.6       | 95.2  | 98.2           | 107.5 | 110.4          | 113.6 | 113.7            | 147.1 |
| 400                                                       | 84.5           | 87.3  | 88.0      | 87.1  | 89.2       | 91.5  | 101.9      | 95.1  | 99.0           | 109.1 | 112.7          | 115.2 | 112.6            | 148.4 |
| 500                                                       | 85.2           | 87.3  | 88.6      | 89.1  | 90.4       | 92.3  | 94.2       | 96.6  | 100.1          | 111.4 | 114.3          | 115.4 | 110.6            | 149.0 |
| 630                                                       | 84.9           | 88.2  | 90.0      | 89.5  | 91.1       | 93.5  | 94.9       | 97.3  | 100.7          | 112.5 | 114.9          | 115.4 | 108.3            | 149.4 |
| 800                                                       | 86.7           | 88.5  | 90.5      | 90.3  | 92.6       | 94.5  | 96.1       | 99.5  | 103.0          | 112.6 | 115.5          | 112.9 | 105.3            | 149.1 |
| 1000                                                      | 90.2           | 90.2  | 92.0      | 91.3  | 93.4       | 95.0  | 96.4       | 100.0 | 103.7          | 111.8 | 114.2          | 112.1 | 102.3            | 148.2 |
| 1250                                                      | 91.3           | 93.8  | 94.1      | 93.0  | 94.2       | 96.3  | 98.2       | 101.1 | 103.8          | 112.1 | 113.0          | 108.7 | 100.2            | 147.4 |
| 1600                                                      | 96.8           | 96.7  | 96.3      | 94.2  | 95.7       | 97.3  | 99.2       | 102.0 | 105.1          | 111.7 | 112.3          | 106.5 | 99.0             | 147.1 |
| 2000                                                      | 98.8           | 100.2 | 100.3     | 97.7  | 96.3       | 97.2  | 99.2       | 102.7 | 105.1          | 111.1 | 111.1          | 104.2 | 97.5             | 146.6 |
| 2500                                                      | 97.0           | 100.0 | 101.6     | 100.3 | 100.4      | 98.8  | 99.5       | 103.6 | 105.5          | 112.3 | 110.0          | 102.8 | 96.9             | 147.1 |
| 3150                                                      | 93.9           | 96.4  | 97.7      | 98.2  | 100.3      | 101.9 | 101.0      | 103.2 | 105.0          | 110.9 | 110.1          | 102.3 | 96.1             | 146.5 |
| 4000                                                      | 92.0           | 93.7  | 95.8      | 95.3  | 97.9       | 100.7 | 101.3      | 104.1 | 105.7          | 110.4 | 108.2          | 101.7 | 95.2             | 145.9 |
| 5000                                                      | 92.1           | 94.3  | 95.2      | 94.3  | 96.4       | 98.8  | 101.0      | 104.5 | 105.8          | 109.6 | 107.4          | 101.0 | 95.0             | 145.5 |
| 6300                                                      | 92.5           | 94.5  | 95.1      | 94.9  | 96.5       | 98.2  | 100.3      | 104.4 | 104.9          | 109.1 | 105.6          | 99.2  | 94.2             | 145.0 |
| 8000                                                      | 92.3           | 95.7  | 96.2      | 95.0  | 95.9       | 98.2  | 99.6       | 104.0 | 104.9          | 107.7 | 105.0          | 97.5  | 92.4             | 144.8 |
| 10000                                                     | 94.1           | 96.8  | 97.8      | 97.2  | 97.3       | 99.3  | 100.1      | 103.5 | 104.9          | 108.2 | 104.0          | 98.2  | 92.5             | 145.6 |
| 12500                                                     | 95.0           | 96.8  | 99.9      | 98.6  | 99.5       | 101.0 | 100.3      | 102.9 | 104.3          | 106.7 | 102.9          | 98.0  | 92.5             | 146.0 |
| 15000                                                     | 92.3           | 96.2  | 97.1      | 97.9  | 99.0       | 99.8  | 99.6       | 101.4 | 102.7          | 104.8 | 101.8          | 97.1  | 91.4             | 146.0 |
| 20000                                                     | 90.0           | 93.1  | 95.0      | 95.6  | 95.9       | 98.4  | 97.5       | 98.6  | 99.9           | 101.7 | 99.9           | 95.4  | 90.3             | 145.3 |
| 25000                                                     | 87.0           | 90.4  | 93.0      | 93.8  | 94.7       | 97.1  | 96.2       | 97.2  | 98.7           | 100.3 | 96.5           | 93.1  | 87.3             | 146.0 |
| 31500                                                     | 80.9           | 85.5  | 87.6      | 89.0  | 90.0       | 92.4  | 91.4       | 93.0  | 94.1           | 95.1  | 91.5           | 88.0  | 81.5             | 144.3 |
| 40000                                                     | 77.9           | 82.9  | 84.4      | 85.6  | 87.8       | 90.2  | 89.5       | 90.4  | 91.2           | 92.5  | 88.4           | 84.5  | 78.1             | 145.7 |
| 50000                                                     | 74.3           | 78.7  | 81.3      | 81.8  | 85.0       | 87.2  | 85.4       | 86.7  | 89.2           | 90.1  | 85.7           | 80.4  | 74.0             | 147.1 |
| 63000                                                     | 69.8           | 75.4  | 77.4      | 78.2  | 80.8       | 83.5  | 81.4       | 83.7  | 87.1           | 89.0  | 83.6           | 76.5  | 68.9             | 149.9 |
| 80000                                                     | 64.1           | 72.0  | 72.5      | 72.2  | 74.8       | 78.5  | 76.6       | 78.3  | 81.7           | 88.2  | 77.6           | 68.7  | 60.5             | 153.2 |
| CASPL                                                     | 106.6          | 108.7 | 109.6     | 108.9 | 110.0      | 111.5 | 112.6      | 115.1 | 116.9          | 123.2 | 124.1          | 123.4 | 121.1            | 161.8 |
| PNL                                                       | 119.0          | 121.4 | 122.4     | 121.5 | 122.7      | 124.2 | 125.0      | 127.6 | 129.5          | 135.4 | 135.2          | 131.6 | 128.1            |       |
| PNLT                                                      | 119.0          | 121.4 | 122.4     | 122.1 | 123.2      | 124.2 | 126.2      | 127.6 | 129.5          | 135.4 | 135.2          | 131.6 | 128.1            |       |
| DBA                                                       | 105.8          | 107.7 | 108.6     | 107.5 | 108.5      | 109.9 | 111.1      | 114.3 | 116.2          | 122.7 | 123.2          | 120.7 | 115.5            |       |
| NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166 |                |       |           |       |            |       |            |       |                |       |                |       |                  |       |
| VEHICLE                                                   | = ADH202       |       | TEST DATE |       | = 08-10-82 |       | LOCAT      |       | = C41 ANECH CH |       | CONFIG         |       | = 5              |       |
| IAPLHA                                                    | = SB59         |       | IEGA      |       | = NO       |       | PWL AREA   |       | = FULL SPHERE  |       | TAMB F         |       | = 74.00          |       |
| WIND DIR                                                  |                |       | DEG       |       | WIND VEL   |       | = MPH      |       | EXT DIST       |       | = 40.0 FT      |       | EXT CONFIG = ARC |       |
| FNIN1                                                     | = LBS          |       | XNLR      |       | = RPM      |       | XNH        |       | = RPM          |       | V8             |       | = 1653.1 FPS     |       |
| FNRMB                                                     | = LBS          |       | XNLR      |       | = RPM      |       | XNHR       |       | = RPM          |       | V18            |       | = 2470.2 FPS     |       |
| RUNPT                                                     | = 82F-400-0518 |       | TAPE      |       | = X0518C   |       | TEST PT NO |       | = 0518         |       | NC             |       | = AE056          |       |
|                                                           |                |       |           |       |            |       |            |       |                |       | CORR FAN SPEED |       | = RPM            |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0518 X0518F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 90.6  | 93.2  | 91.3  | 90.5  | 89.8  | 90.6  | 91.8  | 91.5  | 94.7  | 103.1 | 105.5 | 109.1 | 111.1 | 143.3 |
| 315   | 90.6  | 93.2  | 91.3  | 90.5  | 91.4  | 92.1  | 94.2  | 92.4  | 95.8  | 105.0 | 108.3 | 111.5 | 111.4 | 145.0 |
| 400   | 93.3  | 93.3  | 91.9  | 90.6  | 91.0  | 91.8  | 100.6 | 92.3  | 97.8  | 108.4 | 111.0 | 113.3 | 111.8 | 147.0 |
| 500   | 92.1  | 93.6  | 93.0  | 90.5  | 92.3  | 92.6  | 93.4  | 94.6  | 99.3  | 110.7 | 113.1 | 115.3 | 112.6 | 148.7 |
| 630   | 92.9  | 93.7  | 93.5  | 92.6  | 93.1  | 93.9  | 94.2  | 95.6  | 102.3 | 111.7 | 115.0 | 115.1 | 113.4 | 149.6 |
| 800   | 92.6  | 94.6  | 95.0  | 93.0  | 94.7  | 95.0  | 95.6  | 98.1  | 103.5 | 111.5 | 114.5 | 115.7 | 112.9 | 149.6 |
| 1000  | 94.4  | 94.9  | 95.6  | 93.9  | 95.5  | 95.6  | 96.0  | 98.7  | 103.2 | 111.5 | 113.1 | 112.2 | 111.0 | 148.1 |
| 1250  | 97.3  | 96.4  | 96.9  | 94.8  | 96.3  | 97.1  | 97.7  | 99.6  | 104.5 | 111.0 | 112.3 | 110.0 | 109.9 | 147.5 |
| 1600  | 97.5  | 99.3  | 98.6  | 96.3  | 97.6  | 98.4  | 98.9  | 100.5 | 104.6 | 110.5 | 111.2 | 107.8 | 108.6 | 146.8 |
| 2000  | 102.7 | 101.6 | 100.2 | 97.1  | 98.4  | 98.5  | 99.1  | 101.4 | 105.2 | 111.7 | 110.1 | 106.4 | 108.0 | 147.1 |
| 2500  | 105.2 | 105.6 | 104.5 | 100.8 | 103.0 | 100.4 | 99.7  | 102.5 | 105.3 | 110.9 | 110.8 | 106.5 | 107.9 | 148.0 |
| 3150  | 102.6 | 105.1 | 105.9 | 103.8 | 103.6 | 103.9 | 101.6 | 102.6 | 106.6 | 110.9 | 109.2 | 106.0 | 107.0 | 148.1 |
| 4000  | 101.4 | 103.1 | 103.3 | 102.6 | 102.2 | 103.2 | 102.5 | 104.1 | 106.7 | 110.2 | 108.5 | 105.4 | 106.9 | 147.5 |
| 5000  | 102.4 | 102.7 | 103.3 | 101.1 | 100.4 | 101.8 | 102.4 | 104.6 | 105.9 | 109.7 | 106.7 | 103.6 | 106.0 | 147.0 |
| 6300  | 99.5  | 101.0 | 101.0 | 99.2  | 100.6 | 101.2 | 101.8 | 104.6 | 106.0 | 108.4 | 106.1 | 101.8 | 104.0 | 146.2 |
| 8000  | 99.8  | 101.1 | 100.8 | 99.6  | 99.9  | 101.2 | 101.3 | 104.1 | 106.3 | 109.2 | 105.3 | 102.8 | 104.5 | 146.7 |
| 10000 | 99.5  | 102.1 | 101.7 | 99.5  | 101.4 | 102.3 | 101.8 | 103.7 | 106.5 | 108.6 | 105.5 | 104.0 | 106.1 | 147.6 |
| 12500 | 101.0 | 102.9 | 103.0 | 101.4 | 103.5 | 104.0 | 102.4 | 103.7 | 105.8 | 107.5 | 105.2 | 104.0 | 105.8 | 148.6 |
| 16000 | 101.3 | 102.4 | 104.6 | 102.4 | 103.1 | 102.8 | 101.8 | 102.4 | 104.0 | 105.6 | 104.4 | 103.2 | 105.4 | 149.2 |
| 20000 | 98.2  | 101.4 | 101.4 | 101.3 | 99.9  | 101.4 | 99.8  | 100.0 | 103.2 | 104.6 | 101.5 | 101.5 | 103.2 | 149.1 |
| 25000 | 95.3  | 97.7  | 98.7  | 98.3  | 99.3  | 100.1 | 98.6  | 98.6  | 99.3  | 100.1 | 97.2  | 97.2  | 98.3  | 148.6 |
| 31500 | 94.3  | 96.5  | 97.6  | 96.9  | 94.6  | 95.4  | 93.7  | 94.2  | 97.3  | 98.4  | 95.0  | 94.7  | 96.1  | 149.1 |
| 40000 | 87.3  | 90.8  | 91.4  | 91.2  | 92.4  | 93.2  | 91.8  | 91.7  | 94.6  | 94.9  | 90.9  | 88.6  | 89.4  | 149.2 |
| 50000 | 84.0  | 87.8  | 87.8  | 87.4  | 89.6  | 90.2  | 87.3  | 87.2  | 93.3  | 94.7  | 89.6  | 85.4  | 84.8  | 151.2 |
| 63000 | 79.5  | 82.6  | 83.7  | 82.7  | 85.4  | 86.5  | 83.2  | 84.0  | 89.2  | 95.2  | 84.9  | 79.0  | 77.8  | 154.0 |
| 80000 | 73.5  | 77.8  | 78.4  | 77.6  | 79.4  | 81.5  | 78.2  | 78.5  | 79.4  | 85.4  | 75.1  | 69.2  | 67.9  | 153.1 |
| GASPL | 112.8 | 114.1 | 114.2 | 112.4 | 113.1 | 113.5 | 113.1 | 114.6 | 117.5 | 122.7 | 123.3 | 123.2 | 122.5 | 163.0 |
| PNL   | 125.3 | 126.3 | 126.5 | 124.5 | 124.8 | 125.2 | 124.8 | 126.3 | 129.4 | 134.4 | 133.9 | 131.7 | 132.2 |       |
| PNLT  | 125.3 | 126.3 | 126.5 | 124.5 | 124.8 | 125.2 | 125.9 | 126.3 | 129.4 | 134.4 | 133.9 | 131.7 | 132.2 |       |
| DBA   | 195.4 | 199.3 | 200.0 | 199.2 | 201.3 | 203.0 | 199.8 | 200.1 | 202.9 | 208.5 | 198.7 | 193.2 | 192.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICLE = ADH202 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1653.1 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2470.2 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0518 TAPE = X0518F TEST PT NO = 0518 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0518 X05181

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 71.5 | 73.0 | 72.6  | 72.1  | 72.9  | 73.8  | 82.5  | 73.8  | 78.6  | 88.1  | 89.1  | 89.3 | 84.4 | 164.6 |
| 63    | 70.2 | 73.3 | 73.7  | 71.9  | 74.2  | 74.6  | 75.3  | 76.1  | 80.1  | 90.3  | 81.2  | 91.2 | 85.2 | 166.3 |
| 80    | 71.0 | 73.3 | 74.3  | 74.0  | 74.9  | 75.9  | 76.1  | 77.1  | 83.0  | 91.3  | 83.1  | 90.9 | 85.9 | 167.2 |
| 100   | 70.6 | 74.2 | 75.7  | 74.4  | 76.5  | 76.9  | 77.4  | 79.5  | 84.1  | 91.0  | 92.5  | 91.4 | 85.3 | 167.2 |
| 125   | 72.3 | 74.4 | 76.1  | 75.2  | 77.2  | 77.5  | 77.7  | 80.0  | 83.8  | 90.9  | 91.0  | 87.8 | 83.1 | 165.7 |
| 160   | 75.0 | 75.7 | 77.3  | 76.0  | 77.9  | 78.9  | 79.4  | 80.7  | 85.0  | 90.3  | 90.0  | 85.3 | 81.7 | 165.1 |
| 200   | 75.0 | 78.4 | 78.8  | 77.3  | 79.1  | 80.0  | 80.3  | 81.5  | 84.9  | 89.6  | 88.6  | 82.8 | 79.8 | 164.4 |
| 250   | 79.9 | 80.5 | 80.2  | 77.9  | 79.7  | 79.8  | 80.3  | 82.2  | 85.2  | 90.6  | 87.2  | 81.0 | 78.6 | 164.7 |
| 315   | 82.0 | 84.1 | 84.3  | 81.3  | 84.0  | 81.6  | 80.7  | 83.0  | 85.0  | 89.4  | 87.6  | 80.6 | 77.7 | 165.6 |
| 400   | 78.8 | 83.2 | 85.3  | 84.0  | 84.2  | 84.7  | 82.3  | 82.8  | 86.0  | 89.0  | 85.4  | 79.4 | 75.8 | 165.7 |
| 500   | 77.2 | 80.8 | 82.3  | 82.5  | 82.6  | 83.8  | 82.9  | 84.0  | 85.7  | 87.9  | 84.3  | 78.2 | 74.7 | 165.2 |
| 630   | 77.6 | 80.0 | 82.0  | 80.7  | 80.5  | 82.1  | 82.6  | 84.2  | 84.6  | 87.0  | 82.0  | 75.6 | 72.8 | 164.6 |
| 800   | 74.2 | 77.9 | 79.4  | 78.5  | 80.5  | 81.3  | 81.7  | 83.9  | 84.4  | 85.3  | 80.8  | 73.1 | 69.6 | 163.9 |
| 1000  | 74.1 | 77.7 | 79.0  | 78.8  | 79.7  | 81.1  | 81.0  | 83.3  | 84.4  | 85.8  | 79.6  | 73.5 | 68.9 | 164.3 |
| 1250  | 73.3 | 78.4 | 79.7  | 78.5  | 81.0  | 82.1  | 81.4  | 82.7  | 84.5  | 84.9  | 79.3  | 73.9 | 69.2 | 165.2 |
| 1600  | 73.9 | 78.6 | 80.6  | 80.1  | 82.8  | 83.5  | 81.7  | 82.4  | 83.3  | 83.2  | 78.1  | 72.5 | 66.4 | 166.2 |
| 2000  | 73.3 | 77.5 | 81.8  | 80.8  | 82.2  | 82.2  | 80.9  | 80.8  | 81.1  | 80.7  | 76.4  | 70.2 | 63.0 | 166.8 |
| 2500  | 68.4 | 75.2 | 77.7  | 79.0  | 78.5  | 80.3  | 78.4  | 77.7  | 79.5  | 78.5  | 71.7  | 65.6 | 55.9 | 166.7 |
| 3150  | 62.1 | 69.2 | 73.1  | 74.5  | 76.6  | 77.6  | 75.8  | 74.8  | 73.7  | 71.5  | 64.0  | 56.3 | 42.6 | 166.2 |
| 4000  | 54.9 | 63.2 | 68.2  | 69.9  | 68.9  | 70.1  | 67.9  | 67.2  | 67.9  | 65.1  | 55.6  | 44.9 | 25.9 | 166.7 |
| 5000  | 38.1 | 49.9 | 55.7  | 58.7  | 61.7  | 63.0  | 61.1  | 59.2  | 58.9  | 54.1  | 41.7  | 25.1 |      | 166.8 |
| 6300  | 17.0 | 32.7 | 40.1  | 44.1  | 48.7  | 50.2  | 46.4  | 43.9  | 45.5  | 39.6  | 22.6  |      |      | 168.8 |
| 8000  |      | 2.7  | 14.6  | 20.1  | 26.5  | 28.7  | 24.2  | 21.5  | 20.1  | 15.3  |       |      |      | 171.6 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |      |      | 170.7 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |      |      |       |
| GASPL | 88.4 | 91.4 | 92.8  | 91.8  | 93.1  | 93.6  | 93.3  | 94.3  | 96.5  | 101.1 | 100.5 | 98.1 | 93.1 | 180.5 |
| PNL   | 95.1 | 99.2 | 102.0 | 101.5 | 102.8 | 103.3 | 102.3 | 102.7 | 104.2 | 106.0 | 103.0 | 98.9 | 93.6 |       |
| PNLT  | 96.1 | 99.9 | 102.6 | 102.0 | 103.3 | 103.3 | 102.3 | 102.7 | 104.9 | 106.5 | 103.0 | 98.9 | 93.6 |       |
| DBA   | 84.5 | 88.4 | 90.4  | 89.8  | 91.1  | 91.9  | 90.9  | 92.0  | 93.2  | 94.7  | 90.7  | 84.9 | 80.9 |       |

ORIGINAL PAGE 13  
OF FOUR QUALITY

MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH202 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1653.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2470.2 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0518 TAPE = X05181 TEST PT NO = 0518 NC = AE056 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0519 X0519C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.8  | 84.3  | 82.3  | 81.4  | 82.2  | 82.6  | 85.2  | 84.6  | 85.8  | 85.9  | 93.3  | 93.2  | 94.9  | 129.6 |
| 63    | 91.2  | 92.0  | 88.0  | 89.5  | 91.6  | 91.0  | 93.6  | 91.5  | 91.5  | 93.0  | 99.2  | 98.1  | 100.5 | 135.9 |
| 80    | 90.2  | 94.7  | 91.0  | 91.5  | 92.4  | 94.2  | 94.9  | 92.8  | 94.5  | 96.1  | 96.4  | 99.1  | 101.5 | 137.0 |
| 100   | 91.0  | 98.0  | 93.5  | 93.6  | 95.4  | 96.3  | 96.7  | 98.6  | 95.3  | 100.3 | 100.5 | 103.7 | 107.1 | 140.8 |
| 125   | 87.4  | 90.9  | 93.5  | 94.0  | 96.1  | 96.7  | 96.3  | 97.5  | 96.2  | 101.5 | 105.7 | 108.8 | 110.3 | 143.3 |
| 160   | 88.2  | 87.0  | 91.2  | 89.8  | 91.4  | 92.2  | 99.4  | 94.8  | 95.2  | 102.5 | 106.7 | 109.6 | 112.8 | 144.3 |
| 200   | 89.6  | 88.4  | 90.1  | 90.2  | 92.5  | 95.4  | 97.8  | 96.9  | 99.6  | 103.9 | 107.8 | 111.8 | 114.4 | 146.0 |
| 250   | 88.5  | 92.1  | 92.8  | 92.4  | 93.0  | 94.3  | 97.2  | 99.6  | 100.6 | 109.6 | 113.5 | 116.0 | 116.6 | 149.8 |
| 315   | 88.9  | 91.9  | 91.9  | 92.5  | 94.3  | 97.4  | 99.8  | 99.2  | 102.9 | 112.2 | 115.1 | 117.6 | 117.7 | 151.4 |
| 400   | 89.7  | 92.8  | 93.8  | 92.3  | 95.2  | 96.3  | 107.4 | 100.3 | 104.0 | 114.6 | 117.7 | 119.2 | 117.3 | 153.1 |
| 500   | 91.0  | 92.8  | 94.1  | 94.1  | 95.7  | 98.0  | 99.4  | 101.6 | 104.6 | 115.9 | 119.3 | 119.2 | 118.1 | 153.8 |
| 630   | 91.4  | 94.0  | 95.5  | 95.3  | 96.9  | 98.7  | 98.9  | 102.5 | 105.7 | 117.8 | 119.7 | 120.4 | 118.5 | 154.8 |
| 800   | 95.2  | 95.7  | 97.2  | 96.5  | 98.4  | 99.7  | 100.9 | 104.3 | 107.7 | 117.6 | 121.2 | 120.9 | 118.3 | 155.5 |
| 1000  | 100.4 | 102.0 | 101.2 | 98.8  | 99.4  | 100.5 | 101.9 | 104.8 | 108.7 | 116.6 | 120.4 | 121.6 | 118.5 | 155.4 |
| 1250  | 100.3 | 104.6 | 104.6 | 103.7 | 103.7 | 104.1 | 103.9 | 105.9 | 109.3 | 116.6 | 120.8 | 120.5 | 118.0 | 155.3 |
| 1600  | 100.8 | 101.2 | 101.4 | 100.2 | 102.2 | 103.8 | 104.2 | 106.5 | 110.4 | 116.2 | 121.1 | 119.2 | 115.7 | 154.9 |
| 2000  | 103.5 | 102.4 | 102.3 | 100.5 | 100.8 | 102.7 | 104.2 | 107.0 | 109.6 | 116.4 | 120.1 | 117.2 | 113.2 | 154.0 |
| 2500  | 101.5 | 103.3 | 103.8 | 102.1 | 103.2 | 103.3 | 104.2 | 107.4 | 110.7 | 117.3 | 119.0 | 115.1 | 111.1 | 153.6 |
| 3150  | 99.4  | 101.9 | 102.7 | 101.7 | 102.8 | 104.9 | 104.8 | 107.2 | 109.8 | 116.4 | 118.1 | 113.6 | 109.8 | 152.8 |
| 4000  | 97.5  | 99.2  | 101.3 | 100.2 | 101.7 | 103.9 | 104.3 | 107.6 | 109.5 | 115.4 | 115.4 | 112.0 | 108.2 | 151.4 |
| 5000  | 96.5  | 99.3  | 100.6 | 99.8  | 101.3 | 103.3 | 104.4 | 107.5 | 109.7 | 114.8 | 114.9 | 111.0 | 106.7 | 151.1 |
| 6300  | 95.4  | 98.2  | 99.8  | 99.2  | 101.5 | 102.5 | 103.7 | 107.4 | 108.4 | 113.0 | 113.1 | 109.4 | 105.1 | 149.9 |
| 8000  | 94.3  | 97.9  | 99.7  | 98.9  | 100.1 | 102.1 | 102.8 | 106.7 | 107.6 | 111.7 | 111.5 | 107.7 | 103.6 | 149.0 |
| 10000 | 93.0  | 97.4  | 99.7  | 99.3  | 100.2 | 102.5 | 103.2 | 105.4 | 107.1 | 110.9 | 110.4 | 107.1 | 102.6 | 148.9 |
| 12500 | 93.1  | 96.7  | 99.8  | 99.5  | 100.1 | 102.6 | 102.1 | 104.3 | 105.4 | 108.2 | 108.0 | 105.4 | 101.6 | 148.1 |
| 16000 | 90.8  | 95.6  | 97.3  | 98.2  | 99.8  | 101.1 | 101.1 | 102.7 | 103.2 | 105.7 | 106.0 | 102.9 | 99.2  | 147.6 |
| 20000 | 88.9  | 92.7  | 94.9  | 96.0  | 97.8  | 99.1  | 98.9  | 100.0 | 100.8 | 103.3 | 104.2 | 101.0 | 97.7  | 147.1 |
| 25000 | 85.8  | 90.1  | 92.6  | 93.6  | 95.5  | 97.6  | 97.0  | 97.2  | 99.1  | 102.2 | 100.7 | 97.6  | 93.1  | 147.3 |
| 31500 | 79.5  | 85.0  | 87.1  | 89.3  | 90.9  | 93.0  | 92.0  | 92.3  | 94.8  | 98.7  | 97.0  | 93.1  | 87.4  | 146.2 |
| 40000 | 76.1  | 82.2  | 85.0  | 85.4  | 88.0  | 90.1  | 89.4  | 90.0  | 92.5  | 97.4  | 96.3  | 90.4  | 83.6  | 148.2 |
| 50000 | 73.3  | 79.7  | 81.8  | 82.6  | 85.3  | 87.6  | 86.8  | 87.1  | 91.2  | 96.4  | 95.3  | 89.8  | 80.7  | 151.1 |
| 63000 | 69.9  | 75.9  | 79.4  | 79.2  | 82.7  | 85.1  | 83.5  | 85.7  | 89.9  | 95.9  | 95.2  | 88.3  | 76.8  | 155.5 |
| 80000 | 65.5  | 73.6  | 76.7  | 74.7  | 78.0  | 81.9  | 79.6  | 82.3  | 87.1  | 96.1  | 94.0  | 85.4  | 71.7  | 161.3 |
| OASPL | 110.7 | 112.7 | 113.3 | 112.5 | 113.7 | 115.2 | 116.4 | 118.4 | 120.9 | 127.9 | 130.7 | 130.1 | 128.2 | 167.6 |
| PNL   | 123.5 | 125.4 | 126.1 | 126.3 | 128.1 | 128.1 | 128.9 | 131.3 | 133.6 | 140.3 | 142.4 | 140.2 | 137.5 |       |
| PNLT  | 123.5 | 126.2 | 127.2 | 126.5 | 126.3 | 128.1 | 130.2 | 131.8 | 133.6 | 140.3 | 142.4 | 140.2 | 137.5 |       |
| DBA   | 110.9 | 112.5 | 113.1 | 111.9 | 113.0 | 114.5 | 115.4 | 118.0 | 120.7 | 127.6 | 130.4 | 129.2 | 126.4 |       |

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NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VERTICL = ADH194     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00       | PAMB HG = 29.50   | RELHUM = 82.3 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1656.1 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2518.2 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-0519 | TAPE = X0519C        | TEST PT NO = 0519      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0519 X0519F

ANGLES MEASURED FROM INLET, DEGREES

| FRQ   | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.8  | 84.3  | 82.3  | 81.4  | 82.2  | 82.6  | 85.2  | 84.6  | 85.8  | 85.9  | 93.3  | 93.2  | 94.9  | 129.6 |
| 63    | 91.2  | 92.0  | 88.0  | 89.5  | 91.6  | 91.0  | 93.6  | 91.5  | 91.5  | 93.0  | 99.2  | 98.1  | 100.5 | 135.9 |
| 80    | 90.2  | 94.7  | 91.0  | 91.5  | 92.4  | 94.2  | 94.9  | 92.8  | 94.5  | 96.1  | 96.4  | 99.1  | 101.5 | 137.0 |
| 100   | 91.0  | 98.0  | 93.5  | 93.6  | 95.4  | 96.3  | 96.7  | 98.6  | 95.3  | 100.3 | 100.5 | 103.7 | 107.1 | 140.8 |
| 125   | 87.4  | 90.9  | 93.5  | 94.0  | 96.1  | 96.7  | 96.3  | 97.5  | 96.2  | 101.5 | 105.7 | 108.8 | 110.3 | 143.3 |
| 160   | 88.2  | 87.0  | 91.2  | 89.8  | 91.4  | 92.2  | 99.4  | 94.8  | 95.2  | 102.5 | 106.7 | 109.6 | 112.8 | 144.3 |
| 200   | 89.6  | 88.4  | 90.1  | 90.2  | 92.5  | 95.4  | 97.8  | 96.9  | 99.6  | 103.9 | 107.8 | 111.8 | 114.4 | 146.0 |
| 250   | 88.5  | 92.1  | 92.8  | 92.4  | 93.0  | 94.3  | 97.2  | 99.6  | 100.6 | 109.6 | 113.5 | 116.0 | 116.6 | 149.8 |
| 315   | 88.9  | 91.9  | 91.9  | 92.5  | 94.3  | 97.4  | 99.8  | 99.2  | 102.9 | 112.2 | 115.1 | 117.6 | 117.7 | 151.4 |
| 400   | 89.7  | 92.8  | 93.8  | 92.3  | 95.2  | 96.3  | 107.4 | 100.3 | 104.0 | 114.6 | 117.7 | 119.2 | 117.3 | 153.1 |
| 500   | 91.0  | 92.8  | 94.1  | 94.1  | 95.7  | 98.0  | 99.4  | 101.6 | 104.6 | 115.9 | 119.3 | 119.2 | 118.1 | 153.8 |
| 630   | 91.4  | 94.0  | 95.5  | 95.3  | 96.9  | 98.7  | 98.9  | 102.5 | 105.7 | 117.8 | 119.7 | 120.4 | 118.5 | 154.8 |
| 800   | 95.2  | 95.7  | 97.2  | 96.5  | 98.4  | 99.7  | 100.9 | 104.3 | 107.7 | 117.6 | 121.2 | 120.9 | 118.3 | 155.5 |
| 1000  | 100.4 | 102.0 | 101.2 | 98.8  | 99.4  | 100.5 | 101.9 | 104.8 | 108.7 | 116.6 | 120.4 | 121.6 | 118.5 | 155.4 |
| 1250  | 100.3 | 104.6 | 104.6 | 103.7 | 103.7 | 104.1 | 103.9 | 105.9 | 109.3 | 116.6 | 120.8 | 120.6 | 118.0 | 155.3 |
| 1600  | 100.8 | 101.2 | 101.4 | 100.2 | 102.2 | 103.8 | 104.2 | 106.5 | 110.4 | 116.2 | 121.1 | 119.2 | 115.7 | 154.9 |
| 2000  | 103.5 | 102.4 | 102.3 | 100.5 | 100.8 | 102.7 | 104.2 | 107.0 | 109.6 | 116.4 | 120.1 | 117.2 | 113.2 | 154.0 |
| 2500  | 101.5 | 103.3 | 103.8 | 102.1 | 103.2 | 103.3 | 104.2 | 107.4 | 110.7 | 117.3 | 119.0 | 115.1 | 111.1 | 153.6 |
| 3150  | 99.4  | 101.9 | 102.7 | 101.7 | 102.8 | 104.9 | 104.8 | 107.2 | 109.8 | 116.4 | 118.1 | 113.6 | 109.8 | 152.8 |
| 4000  | 97.5  | 99.2  | 101.3 | 100.2 | 101.7 | 103.9 | 104.3 | 107.6 | 109.5 | 115.4 | 115.4 | 112.0 | 108.2 | 151.4 |
| 5000  | 96.5  | 99.3  | 100.6 | 99.8  | 101.3 | 103.3 | 104.4 | 107.5 | 109.7 | 114.8 | 114.9 | 111.0 | 106.7 | 151.1 |
| 6300  | 95.4  | 98.2  | 99.8  | 99.2  | 101.5 | 102.5 | 103.7 | 107.4 | 108.4 | 113.0 | 113.1 | 109.4 | 105.1 | 149.9 |
| 8000  | 94.3  | 97.9  | 99.7  | 98.9  | 100.1 | 102.1 | 102.8 | 106.7 | 107.6 | 111.7 | 111.5 | 107.7 | 103.6 | 149.0 |
| 10000 | 93.0  | 97.4  | 99.7  | 99.3  | 100.2 | 102.5 | 103.2 | 105.4 | 107.1 | 110.9 | 110.4 | 107.1 | 102.6 | 148.9 |
| 12500 | 93.1  | 96.7  | 99.8  | 99.5  | 100.1 | 102.6 | 102.1 | 104.3 | 105.4 | 108.2 | 108.0 | 105.4 | 101.6 | 148.1 |
| 16000 | 90.8  | 95.6  | 97.3  | 98.2  | 99.8  | 101.1 | 101.1 | 102.7 | 103.2 | 105.7 | 106.0 | 102.9 | 99.2  | 147.6 |
| 20000 | 88.9  | 92.7  | 94.9  | 96.0  | 97.8  | 99.1  | 98.9  | 100.0 | 100.8 | 103.3 | 104.2 | 101.0 | 97.7  | 147.1 |
| 25000 | 85.8  | 90.1  | 92.6  | 93.6  | 95.5  | 97.6  | 97.0  | 97.2  | 99.1  | 102.2 | 100.7 | 97.6  | 93.1  | 147.3 |
| 31500 | 79.5  | 85.0  | 87.1  | 89.3  | 90.9  | 93.0  | 92.0  | 92.3  | 94.8  | 98.7  | 97.0  | 93.1  | 87.4  | 146.2 |
| 40000 | 76.1  | 82.2  | 85.0  | 85.4  | 88.0  | 90.1  | 89.4  | 90.0  | 92.5  | 97.4  | 96.3  | 90.4  | 83.6  | 148.2 |
| 50000 | 73.3  | 79.7  | 81.8  | 82.6  | 85.3  | 87.6  | 86.8  | 87.1  | 91.2  | 96.4  | 95.3  | 89.8  | 80.7  | 151.1 |
| 63000 | 69.9  | 75.9  | 79.4  | 79.2  | 82.7  | 85.1  | 83.5  | 85.7  | 89.9  | 95.9  | 95.2  | 88.3  | 76.8  | 155.5 |
| 80000 | 65.5  | 73.6  | 76.7  | 74.7  | 78.0  | 81.9  | 79.8  | 82.3  | 87.1  | 96.1  | 94.0  | 85.4  | 71.7  | 161.3 |

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0ASPL 110.7 112.7 113.3 112.5 113.7 115.2 116.4 118.4 120.9 127.9 130.7 130.1 128.2 167.6  
 PNL 123.5 125.4 126.1 125.1 126.3 128.1 128.9 131.3 133.6 140.3 142.4 140.2 137.5  
 PNLT 123.5 126.2 127.2 126.5 126.3 128.1 130.2 131.8 133.6 140.3 142.4 140.2 137.5  
 DBA 186.8 194.5 197.6 196.0 199.4 202.9 200.9 203.3 208.0 216.6 214.6 206.3 193.2

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH194 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 82.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1656.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2518.2 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-0519 TAPE = X0519F TEST PT NO = 0519 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0519 X05191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                                                                                                                                                                                                                                                                                                                                                           | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50                                                                                                                                                                                                                                                                                                                                                                             | 67.9 | 72.5 | 74.6 | 73.8  | 77.1  | 78.3  | 89.3  | 81.8  | 84.8  | 94.3  | 95.9  | 95.1  | 90.0 | 170.7 |
| 63                                                                                                                                                                                                                                                                                                                                                                             | 69.1 | 72.5 | 74.8 | 75.6  | 77.6  | 80.1  | 81.3  | 83.1  | 85.3  | 95.5  | 97.4  | 95.1  | 90.7 | 171.4 |
| 80                                                                                                                                                                                                                                                                                                                                                                             | 69.5 | 73.6 | 76.2 | 76.7  | 78.7  | 80.7  | 80.7  | 83.9  | 86.4  | 97.4  | 97.8  | 96.2  | 91.0 | 172.4 |
| 100                                                                                                                                                                                                                                                                                                                                                                            | 73.2 | 75.3 | 77.9 | 77.9  | 80.2  | 81.7  | 82.7  | 85.7  | 88.4  | 97.1  | 99.2  | 96.6  | 90.6 | 173.1 |
| 125                                                                                                                                                                                                                                                                                                                                                                            | 78.3 | 81.5 | 81.8 | 80.1  | 81.1  | 82.3  | 83.6  | 86.1  | 89.3  | 96.0  | 98.3  | 97.2  | 90.6 | 173.0 |
| 160                                                                                                                                                                                                                                                                                                                                                                            | 78.0 | 83.9 | 85.0 | 84.9  | 85.3  | 85.8  | 85.6  | 87.0  | 89.8  | 96.0  | 98.5  | 95.8  | 89.7 | 172.9 |
| 200                                                                                                                                                                                                                                                                                                                                                                            | 78.2 | 80.3 | 81.6 | 81.3  | 83.7  | 85.4  | 85.6  | 87.5  | 90.6  | 95.3  | 98.5  | 94.3  | 87.0 | 172.5 |
| 250                                                                                                                                                                                                                                                                                                                                                                            | 80.6 | 81.3 | 82.4 | 81.3  | 82.1  | 84.1  | 85.4  | 87.8  | 89.6  | 95.2  | 97.3  | 91.8  | 83.8 | 171.6 |
| 315                                                                                                                                                                                                                                                                                                                                                                            | 78.2 | 81.8 | 83.6 | 82.6  | 84.2  | 84.4  | 85.2  | 87.9  | 90.5  | 95.8  | 95.7  | 89.2  | 80.9 | 171.2 |
| 400                                                                                                                                                                                                                                                                                                                                                                            | 75.3 | 80.0 | 82.1 | 81.9  | 83.5  | 85.7  | 85.4  | 87.4  | 89.2  | 94.5  | 94.3  | 87.0  | 78.6 | 170.4 |
| 500                                                                                                                                                                                                                                                                                                                                                                            | 73.3 | 76.9 | 80.4 | 80.2  | 82.1  | 84.5  | 84.7  | 87.5  | 88.5  | 93.1  | 91.2  | 84.7  | 76.0 | 169.0 |
| 630                                                                                                                                                                                                                                                                                                                                                                            | 71.8 | 76.6 | 79.3 | 79.4  | 81.5  | 83.6  | 84.6  | 87.1  | 88.4  | 92.1  | 90.2  | 83.1  | 73.5 | 168.7 |
| 800                                                                                                                                                                                                                                                                                                                                                                            | 70.2 | 75.2 | 78.2 | 78.5  | 81.4  | 82.5  | 83.6  | 86.8  | 86.8  | 90.0  | 87.8  | 80.8  | 70.7 | 167.5 |
| 1000                                                                                                                                                                                                                                                                                                                                                                           | 68.6 | 74.5 | 77.9 | 78.1  | 79.8  | 82.1  | 82.6  | 85.9  | 85.8  | 88.3  | 85.8  | 78.4  | 68.1 | 166.7 |
| 1250                                                                                                                                                                                                                                                                                                                                                                           | 66.8 | 73.7 | 77.6 | 78.3  | 79.8  | 82.3  | 82.8  | 84.4  | 85.0  | 87.2  | 84.2  | 77.0  | 65.7 | 166.5 |
| 1600                                                                                                                                                                                                                                                                                                                                                                           | 66.0 | 72.4 | 77.3 | 78.2  | 79.4  | 82.1  | 81.5  | 83.0  | 82.9  | 83.9  | 80.9  | 73.9  | 62.3 | 165.7 |
| 2000                                                                                                                                                                                                                                                                                                                                                                           | 62.8 | 70.7 | 74.5 | 76.6  | 79.0  | 80.4  | 80.3  | 81.1  | 80.4  | 80.8  | 78.0  | 69.8  | 56.8 | 165.2 |
| 2500                                                                                                                                                                                                                                                                                                                                                                           | 59.1 | 66.6 | 71.1 | 73.7  | 76.4  | 77.9  | 77.5  | 77.7  | 77.0  | 77.2  | 74.4  | 65.1  | 50.4 | 164.7 |
| 3150                                                                                                                                                                                                                                                                                                                                                                           | 52.6 | 61.6 | 67.0 | 69.8  | 72.7  | 75.1  | 74.2  | 73.4  | 73.5  | 73.6  | 67.5  | 56.7  | 37.4 | 164.9 |
| 4000                                                                                                                                                                                                                                                                                                                                                                           | 40.1 | 51.7 | 57.6 | 62.2  | 65.1  | 67.6  | 66.2  | 65.2  | 65.4  | 65.4  | 57.6  | 43.3  | 17.2 | 163.8 |
| 5000                                                                                                                                                                                                                                                                                                                                                                           | 26.9 | 41.4 | 49.3 | 52.9  | 57.2  | 59.9  | 58.7  | 57.5  | 56.9  | 56.6  | 47.1  | 26.9  |      | 165.9 |
| 6300                                                                                                                                                                                                                                                                                                                                                                           | 6.3  | 24.6 | 34.0 | 39.3  | 44.5  | 47.5  | 46.0  | 43.8  | 43.4  | 41.4  | 28.3  | 2.1   |      | 168.7 |
| 8000                                                                                                                                                                                                                                                                                                                                                                           |      |      | 10.3 | 16.7  | 23.7  | 27.2  | 24.6  | 23.2  | 20.8  | 16.0  |       |       |      | 173.1 |
| 10000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      | 178.9 |
| 12500                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000                                                                                                                                                                                                                                                                                                                                                                          |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| DB SPL                                                                                                                                                                                                                                                                                                                                                                         | 87.2 | 90.7 | 92.6 | 92.4  | 94.0  | 95.6  | 96.8  | 98.4  | 100.2 | 106.5 | 107.8 | 104.9 | 98.8 | 185.0 |
| PNL                                                                                                                                                                                                                                                                                                                                                                            | 91.7 | 95.7 | 98.5 | 99.4  | 101.5 | 103.3 | 103.5 | 104.9 | 105.8 | 110.5 | 110.4 | 105.5 | 98.0 |       |
| PNLT                                                                                                                                                                                                                                                                                                                                                                           | 91.7 | 95.7 | 99.1 | 100.1 | 101.5 | 103.3 | 103.5 | 104.9 | 106.4 | 111.0 | 110.4 | 105.5 | 98.0 |       |
| DBA                                                                                                                                                                                                                                                                                                                                                                            | 80.1 | 84.6 | 87.6 | 88.0  | 89.9  | 91.9  | 92.2  | 94.4  | 95.1  | 98.8  | 98.1  | 92.4  | 84.5 |       |
| MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.595      FREQ SHIFT = -9<br>NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166                                                                                                                                                                            |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| VEHICL = ADH194      TEST DATE = 08-10-82      LOCAT = C41 ANECH CH      CONFIG = 5      MODEL = AX      FLTVEL = 0. FPS<br>IAPLHA = SB59      IECA = NO      PWL AREA = FULL SPHERE      TAMB F = 74.00      PAMB HG = 29.50      RELHUM = 82.3 PCT<br>WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR = |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1656.1 FPS      AE8 = 4.0 SQ IN<br>FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2518.2 FPS      AE18 = 20.2 SQ IN                                                                                                                                                                 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| RUNPT = 82F-2ER-0519      TAPE = X05191      TEST PT NO = 0519      NC = AE056      CORR FAN SPEED =      RPM                                                                                                                                                                                                                                                                  |      |      |      |       |       |       |       |       |       |       |       |       |      |       |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0520 X0520C  
BACKGROUND 82F-400-D100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.0 | 88.3 | 83.3  | 83.4  | 83.7  | 82.8  | 83.0  | 85.6  | 88.1  | 88.7  | 93.0  | 93.2  | 99.6  | 131.5 |
| 63    | 90.9 | 91.0 | 89.2  | 89.8  | 91.9  | 89.5  | 87.9  | 90.8  | 93.7  | 95.3  | 94.2  | 93.4  | 100.8 | 134.7 |
| 80    | 90.2 | 95.2 | 91.0  | 92.3  | 92.1  | 94.0  | 93.6  | 93.0  | 93.7  | 95.1  | 95.7  | 97.9  | 102.8 | 136.8 |
| 100   | 90.0 | 95.8 | 91.3  | 91.1  | 93.7  | 94.3  | 95.2  | 96.1  | 93.8  | 97.1  | 98.2  | 102.4 | 106.1 | 139.0 |
| 125   | 87.2 | 89.9 | 92.5  | 92.0  | 93.8  | 95.0  | 95.1  | 95.5  | 93.5  | 98.8  | 102.2 | 106.3 | 109.3 | 141.2 |
| 160   | 86.4 | 83.5 | 89.2  | 87.8  | 89.1  | 90.2  | 95.9  | 91.3  | 92.7  | 99.5  | 103.4 | 107.4 | 111.0 | 142.0 |
| 200   | 88.1 | 87.6 | 86.6  | 86.2  | 88.8  | 91.4  | 94.3  | 94.4  | 96.6  | 100.2 | 103.8 | 109.5 | 112.9 | 143.7 |
| 250   | 84.5 | 87.6 | 87.8  | 88.1  | 89.0  | 91.3  | 94.7  | 95.9  | 96.6  | 105.1 | 109.0 | 113.0 | 113.9 | 146.3 |
| 315   | 85.6 | 87.7 | 87.2  | 88.2  | 90.1  | 92.7  | 95.8  | 95.5  | 98.9  | 108.2 | 111.4 | 114.8 | 114.7 | 148.1 |
| 400   | 86.2 | 87.8 | 89.0  | 87.8  | 90.2  | 92.3  | 102.9 | 96.1  | 99.8  | 110.1 | 113.5 | 115.4 | 113.6 | 149.0 |
| 500   | 85.7 | 87.5 | 89.8  | 89.8  | 91.2  | 93.3  | 95.4  | 97.3  | 101.1 | 112.4 | 115.5 | 116.2 | 111.3 | 150.0 |
| 630   | 85.7 | 88.7 | 90.7  | 90.3  | 92.1  | 94.0  | 95.4  | 98.5  | 102.0 | 114.3 | 116.4 | 115.6 | 109.5 | 150.6 |
| 800   | 87.7 | 88.7 | 91.0  | 91.0  | 92.9  | 95.0  | 96.6  | 100.3 | 103.7 | 113.6 | 117.0 | 114.4 | 105.5 | 150.3 |
| 1000  | 90.7 | 90.7 | 92.5  | 92.0  | 93.6  | 96.0  | 97.4  | 100.5 | 105.0 | 113.3 | 115.9 | 113.6 | 103.8 | 149.7 |
| 1250  | 92.5 | 94.8 | 95.3  | 94.5  | 95.4  | 97.6  | 98.4  | 101.6 | 105.1 | 113.9 | 115.0 | 110.9 | 102.0 | 149.2 |
| 1600  | 97.3 | 97.7 | 97.3  | 95.2  | 96.7  | 98.3  | 99.9  | 103.0 | 106.6 | 113.4 | 115.0 | 108.7 | 101.0 | 149.1 |
| 2000  | 98.5 | 99.2 | 100.8 | 98.7  | 98.1  | 98.7  | 100.2 | 103.2 | 105.8 | 113.1 | 113.1 | 106.2 | 99.2  | 148.2 |
| 2500  | 96.0 | 98.0 | 100.1 | 99.6  | 101.4 | 100.8 | 100.2 | 104.1 | 107.5 | 113.8 | 113.0 | 105.6 | 98.9  | 148.8 |
| 3150  | 94.1 | 95.9 | 97.4  | 97.5  | 99.8  | 102.4 | 102.0 | 104.0 | 106.5 | 113.6 | 112.9 | 105.1 | 98.1  | 148.6 |
| 4000  | 93.0 | 94.5 | 96.3  | 95.5  | 98.4  | 100.9 | 101.8 | 104.6 | 106.7 | 112.4 | 110.4 | 103.5 | 97.5  | 147.4 |
| 5000  | 93.6 | 94.8 | 96.4  | 95.6  | 97.6  | 99.8  | 101.7 | 105.3 | 107.3 | 111.9 | 110.2 | 102.5 | 96.5  | 147.4 |
| 6300  | 94.0 | 96.0 | 96.3  | 95.7  | 98.0  | 99.7  | 101.3 | 105.2 | 106.7 | 110.8 | 108.1 | 100.7 | 95.4  | 146.7 |
| 8000  | 94.1 | 97.4 | 97.7  | 96.2  | 97.4  | 99.7  | 100.6 | 104.7 | 105.9 | 109.7 | 106.0 | 98.5  | 93.7  | 146.1 |
| 10000 | 94.8 | 98.3 | 98.8  | 98.4  | 99.1  | 101.1 | 101.3 | 103.8 | 105.7 | 109.2 | 105.0 | 99.0  | 93.2  | 146.5 |
| 12500 | 95.2 | 97.1 | 100.4 | 100.4 | 100.7 | 103.0 | 101.3 | 104.2 | 104.5 | 107.4 | 103.2 | 98.0  | 93.0  | 146.9 |
| 16000 | 93.3 | 97.2 | 98.1  | 98.9  | 100.8 | 102.3 | 101.6 | 102.9 | 103.5 | 105.8 | 102.8 | 96.8  | 92.4  | 147.3 |
| 20000 | 90.8 | 93.1 | 95.3  | 96.3  | 98.4  | 100.2 | 99.2  | 99.8  | 101.2 | 102.5 | 100.6 | 95.1  | 90.8  | 146.4 |
| 25000 | 87.7 | 91.2 | 93.0  | 93.8  | 96.5  | 98.8  | 97.5  | 98.0  | 99.7  | 100.8 | 98.2  | 93.3  | 87.8  | 147.0 |
| 31500 | 81.9 | 86.0 | 88.1  | 89.5  | 91.3  | 94.1  | 92.4  | 93.5  | 95.6  | 96.8  | 92.5  | 88.0  | 81.8  | 145.5 |
| 40000 | 78.4 | 82.9 | 85.2  | 85.8  | 89.1  | 91.7  | 90.3  | 90.7  | 92.5  | 94.2  | 90.4  | 84.7  | 78.1  | 146.8 |
| 50000 | 74.8 | 79.2 | 81.8  | 82.8  | 86.0  | 88.7  | 86.9  | 87.7  | 89.9  | 92.1  | 87.2  | 81.1  | 74.3  | 148.4 |
| 63000 | 70.8 | 76.1 | 78.2  | 78.7  | 82.3  | 85.5  | 82.4  | 84.7  | 87.4  | 91.5  | 85.9  | 77.0  | 69.4  | 151.4 |
| 80000 | 65.1 | 72.2 | 73.5  | 72.7  | 77.6  | 81.0  | 77.8  | 79.6  | 82.7  | 91.0  | 81.8  | 69.7  | 61.2  | 155.5 |

CASPL 107.0 109.0 110.0 109.6 111.1 112.8 113.6 115.8 118.1 124.8 125.9 124.4 122.1 163.3

PNL 119.2 120.9 122.2 121.5 123.3 125.0 125.8 128.3 130.6 137.3 137.3 132.8 129.3

PNLT 119.2 121.4 122.2 121.5 123.3 125.0 127.0 128.3 130.6 137.3 137.3 132.8 129.3

DBA 106.1 107.6 108.8 107.8 109.4 111.0 111.9 114.9 117.6 124.5 125.2 121.9 116.6

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH203 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1661.8 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2533.1 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0520 TAPE = X0520C TEST PT NO = 0520 NC = AE056 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0520 X0520F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 91.7  | 93.5  | 92.5  | 91.2  | 90.5  | 91.3  | 92.8  | 92.3  | 95.5  | 103.9 | 106.5 | 110.4 | 144.3 |
| 315   | 91.7  | 93.5  | 92.5  | 91.2  | 91.9  | 92.9  | 94.5  | 92.7  | 96.5  | 106.0 | 109.0 | 111.7 | 145.6 |
| 400   | 93.3  | 94.0  | 92.1  | 91.6  | 92.0  | 92.5  | 101.6 | 93.3  | 99.0  | 109.6 | 112.4 | 114.3 | 148.1 |
| 500   | 92.9  | 94.2  | 94.0  | 91.2  | 93.1  | 93.6  | 94.7  | 95.5  | 100.7 | 112.5 | 114.8 | 115.8 | 150.0 |
| 630   | 93.4  | 93.9  | 94.8  | 93.3  | 94.1  | 94.4  | 94.7  | 96.9  | 102.8 | 112.5 | 116.3 | 116.5 | 150.7 |
| 800   | 93.3  | 95.1  | 95.7  | 93.8  | 94.9  | 95.5  | 96.0  | 98.6  | 104.7 | 113.0 | 116.3 | 117.2 | 151.2 |
| 1000  | 95.4  | 95.2  | 96.1  | 94.6  | 95.7  | 96.6  | 97.0  | 99.2  | 104.5 | 113.2 | 115.1 | 114.4 | 150.0 |
| 1250  | 98.1  | 97.0  | 97.5  | 95.6  | 97.6  | 98.4  | 98.0  | 100.1 | 106.0 | 112.7 | 115.1 | 112.2 | 149.5 |
| 1600  | 98.9  | 100.4 | 99.9  | 97.8  | 98.6  | 99.4  | 99.6  | 101.5 | 105.4 | 112.4 | 113.2 | 109.7 | 148.5 |
| 2000  | 103.0 | 102.5 | 101.1 | 98.0  | 100.2 | 100.0 | 100.1 | 101.9 | 107.2 | 113.3 | 113.2 | 109.2 | 149.1 |
| 2500  | 104.1 | 103.9 | 104.7 | 101.6 | 104.4 | 102.4 | 100.4 | 103.0 | 106.7 | 113.6 | 113.5 | 109.1 | 149.7 |
| 3150  | 103.6 | 104.6 | 105.5 | 103.7 | 103.1 | 104.4 | 102.6 | 103.3 | 107.6 | 113.0 | 111.5 | 107.9 | 149.4 |
| 4000  | 101.7 | 102.6 | 103.0 | 101.9 | 102.1 | 103.5 | 103.0 | 104.6 | 108.1 | 112.3 | 111.1 | 106.7 | 148.8 |
| 5000  | 100.6 | 101.2 | 102.1 | 100.2 | 101.6 | 102.8 | 103.2 | 105.3 | 107.6 | 111.3 | 109.1 | 104.8 | 148.0 |
| 6300  | 101.0 | 101.5 | 102.2 | 100.4 | 102.1 | 102.7 | 102.7 | 106.9 | 110.2 | 106.8 | 102.4 | 106.9 | 147.4 |
| 8000  | 101.3 | 102.6 | 102.0 | 100.4 | 101.4 | 102.7 | 102.1 | 104.7 | 107.0 | 110.1 | 106.3 | 103.4 | 147.7 |
| 10000 | 101.2 | 103.8 | 103.2 | 100.8 | 103.1 | 104.1 | 103.0 | 104.0 | 107.0 | 109.6 | 106.0 | 104.3 | 148.5 |
| 12500 | 101.7 | 104.4 | 104.0 | 102.7 | 104.8 | 106.0 | 103.5 | 105.2 | 106.8 | 108.9 | 106.5 | 104.1 | 149.9 |
| 16000 | 101.6 | 102.7 | 105.1 | 104.1 | 104.8 | 105.3 | 103.9 | 104.1 | 105.3 | 106.5 | 105.3 | 103.2 | 150.5 |
| 20000 | 99.2  | 102.4 | 102.4 | 102.3 | 103.0 | 103.2 | 101.6 | 101.3 | 104.2 | 105.2 | 103.3 | 101.8 | 150.4 |
| 25000 | 98.9  | 100.0 | 100.7 | 100.2 | 101.1 | 101.8 | 99.8  | 99.3  | 100.5 | 101.4 | 97.7  | 96.7  | 150.1 |
| 31500 | 95.1  | 97.3  | 97.6  | 96.9  | 95.9  | 97.1  | 94.6  | 94.5  | 97.7  | 99.0  | 95.6  | 93.2  | 149.6 |
| 40000 | 88.3  | 91.3  | 91.9  | 91.7  | 93.7  | 94.7  | 92.2  | 91.3  | 95.2  | 96.9  | 92.3  | 89.2  | 150.2 |
| 50000 | 84.5  | 87.8  | 88.6  | 87.6  | 90.6  | 91.7  | 88.7  | 88.1  | 93.5  | 97.1  | 91.8  | 85.8  | 152.5 |
| 63000 | 80.0  | 83.1  | 84.2  | 83.7  | 86.9  | 88.5  | 84.1  | 84.9  | 90.1  | 97.9  | 89.1  | 80.0  | 156.1 |
| 80000 | 74.5  | 78.5  | 79.1  | 78.1  | 82.2  | 84.0  | 79.4  | 79.6  | 80.3  | 88.1  | 79.3  | 70.2  | 155.1 |
| OASPL | 113.3 | 114.4 | 114.7 | 113.1 | 114.3 | 115.0 | 114.2 | 115.4 | 118.7 | 124.3 | 125.2 | 124.6 | 164.5 |
| PNL   | 125.3 | 126.1 | 126.6 | 124.7 | 125.3 | 126.0 | 125.5 | 126.9 | 130.6 | 136.2 | 136.1 | 133.4 | 133.9 |
| PNLT  | 125.3 | 126.1 | 126.6 | 124.7 | 125.3 | 126.0 | 126.6 | 126.9 | 130.6 | 136.2 | 136.1 | 133.4 | 133.9 |
| DBA   | 196.2 | 200.0 | 200.7 | 199.8 | 203.6 | 205.3 | 200.9 | 201.2 | 203.7 | 211.2 | 202.6 | 194.0 | 192.8 |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH203      | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5           | MODEL = AX        | FLTVEL = 4 J. FPS |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00       | PAMB HG = 29.55   | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1661.8 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNAMB =              | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2533.1 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-400-0520 | TAPE = X0520F        | TEST PT NO = 0520      | NC = AE056           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0520 X05201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 71.5 | 73.7  | 72.9  | 73.1  | 73.9  | 74.6  | 83.5  | 74.8  | 79.8  | 89.3  | 90.6  | 90.3  | 85.4 | 165.8 |
| 63    | 71.0 | 73.8  | 74.7  | 72.7  | 75.0  | 75.6  | 76.6  | 76.9  | 81.4  | 92.2  | 92.9  | 91.7  | 86.7 | 167.6 |
| 80    | 71.5 | 73.6  | 75.5  | 74.7  | 75.9  | 76.4  | 76.6  | 78.3  | 83.5  | 92.1  | 94.4  | 92.3  | 86.1 | 168.3 |
| 100   | 71.4 | 74.7  | 76.4  | 75.2  | 76.7  | 77.4  | 77.8  | 80.0  | 85.4  | 92.6  | 94.3  | 93.0  | 86.8 | 168.8 |
| 125   | 73.3 | 74.7  | 76.6  | 75.9  | 77.5  | 78.5  | 78.7  | 80.5  | 85.1  | 92.7  | 93.0  | 90.1  | 84.9 | 167.6 |
| 160   | 75.8 | 76.3  | 77.9  | 76.8  | 79.2  | 80.1  | 79.6  | 81.2  | 86.4  | 92.0  | 92.8  | 87.6  | 83.6 | 167.1 |
| 200   | 76.4 | 79.5  | 80.2  | 78.9  | 80.1  | 81.0  | 81.1  | 82.5  | 85.6  | 91.6  | 90.6  | 84.8  | 81.5 | 166.1 |
| 250   | 80.2 | 81.3  | 81.2  | 78.8  | 81.4  | 81.3  | 81.3  | 82.7  | 87.3  | 92.1  | 90.3  | 83.9  | 80.7 | 166.7 |
| 315   | 80.8 | 82.4  | 84.4  | 82.2  | 85.4  | 83.6  | 81.4  | 83.6  | 86.5  | 92.1  | 90.2  | 83.2  | 79.5 | 167.3 |
| 400   | 79.8 | 82.7  | 84.9  | 83.9  | 83.7  | 85.2  | 83.3  | 83.5  | 87.0  | 91.1  | 87.7  | 81.3  | 78.2 | 167.0 |
| 500   | 77.4 | 80.3  | 82.0  | 81.8  | 82.5  | 84.0  | 83.4  | 84.5  | 87.1  | 90.0  | 86.8  | 79.4  | 75.9 | 166.4 |
| 630   | 75.8 | 78.5  | 80.8  | 79.8  | 81.8  | 83.1  | 83.3  | 84.9  | 86.3  | 88.6  | 84.3  | 76.9  | 73.7 | 165.6 |
| 800   | 75.7 | 78.4  | 80.6  | 79.8  | 82.0  | 82.8  | 82.6  | 84.6  | 85.3  | 87.2  | 81.6  | 73.7  | 70.1 | 165.0 |
| 1000  | 75.6 | 79.2  | 80.2  | 79.6  | 81.2  | 82.6  | 81.8  | 83.9  | 85.2  | 86.8  | 80.6  | 74.1  | 69.5 | 165.3 |
| 1250  | 75.0 | 80.1  | 81.2  | 79.8  | 82.7  | 83.9  | 82.8  | 83.0  | 84.9  | 85.9  | 79.8  | 74.2  | 70.0 | 166.1 |
| 1600  | 74.6 | 80.1  | 81.6  | 81.3  | 84.1  | 85.5  | 82.8  | 83.8  | 84.3  | 84.6  | 79.4  | 72.6  | 67.8 | 167.5 |
| 2000  | 73.5 | 77.8  | 82.3  | 82.6  | 84.0  | 84.7  | 83.0  | 82.6  | 82.5  | 81.6  | 77.2  | 70.1  | 63.8 | 168.1 |
| 2500  | 69.4 | 76.2  | 78.7  | 80.0  | 81.6  | 82.0  | 80.2  | 79.1  | 80.5  | 79.1  | 73.4  | 65.9  | 56.6 | 168.0 |
| 3150  | 65.7 | 71.4  | 75.1  | 76.4  | 78.3  | 79.4  | 77.0  | 75.3  | 74.8  | 72.8  | 64.5  | 55.8  | 42.7 | 167.7 |
| 4000  | 55.6 | 64.0  | 68.2  | 69.9  | 70.1  | 71.8  | 68.9  | 67.4  | 68.2  | 65.7  | 56.2  | 43.3  | 23.9 | 167.2 |
| 5000  | 39.1 | 50.4  | 56.2  | 59.2  | 62.9  | 64.5  | 61.5  | 58.8  | 59.6  | 56.0  | 43.1  | 25.7  |      | 167.8 |
| 6300  | 17.5 | 32.7  | 40.8  | 44.4  | 49.7  | 51.7  | 47.9  | 44.9  | 45.7  | 42.0  | 24.8  |       |      | 170.1 |
| 8000  |      | 3.2   | 15.1  | 21.1  | 26.0  | 30.7  | 25.2  | 22.4  | 21.1  | 18.0  |       |       |      | 173.7 |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |       |      | 172.7 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 0ASPL | 88.7 | 91.5  | 93.2  | 92.4  | 94.2  | 95.0  | 94.3  | 95.0  | 97.7  | 102.8 | 102.4 | 99.5  | 94.4 | 182.0 |
| PWL   | 95.6 | 99.8  | 102.6 | 102.5 | 104.3 | 105.1 | 103.8 | 103.9 | 105.3 | 107.7 | 105.1 | 100.3 | 95.0 |       |
| PNLT  | 95.6 | 100.4 | 103.2 | 102.5 | 104.3 | 105.1 | 104.3 | 103.9 | 105.9 | 108.2 | 105.1 | 100.3 | 95.0 |       |
| DBA   | 85.0 | 88.9  | 91.0  | 90.7  | 92.6  | 93.5  | 92.1  | 92.9  | 94.3  | 96.3  | 92.6  | 86.3  | 82.4 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICLE = ADH203 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 1APLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.55 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1661.8 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2533.1 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-0520 TAPE = X05201 TEST PT NO = 0520 NC = AE056 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1511 X1511C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3  | 80.6  | 78.8  | 78.4  | 81.0  | 79.8  | 79.2  | 80.6  | 80.3  | 84.9  | 87.5  | 87.2  | 93.9  | 126.0 |
| 63    | 89.9  | 87.2  | 85.5  | 86.5  | 88.1  | 87.0  | 87.9  | 88.8  | 86.0  | 90.0  | 91.4  | 91.9  | 100.3 | 132.2 |
| 80    | 85.7  | 90.2  | 86.2  | 87.0  | 87.1  | 90.0  | 90.1  | 88.8  | 89.0  | 91.3  | 90.2  | 93.4  | 96.5  | 132.0 |
| 100   | 86.5  | 92.0  | 88.0  | 88.1  | 89.9  | 90.8  | 90.4  | 92.6  | 90.3  | 93.8  | 95.0  | 98.9  | 102.1 | 135.3 |
| 125   | 84.4  | 87.9  | 90.0  | 90.0  | 91.1  | 92.0  | 91.3  | 91.7  | 90.7  | 95.0  | 98.4  | 102.3 | 105.3 | 137.5 |
| 160   | 85.2  | 81.7  | 87.0  | 85.0  | 87.4  | 88.0  | 91.6  | 88.5  | 88.7  | 94.8  | 99.4  | 103.1 | 107.0 | 138.0 |
| 200   | 85.6  | 86.9  | 86.6  | 86.4  | 88.0  | 89.4  | 91.8  | 92.4  | 93.6  | 96.9  | 100.3 | 105.8 | 109.2 | 140.1 |
| 250   | 82.8  | 90.6  | 87.8  | 86.6  | 88.0  | 91.8  | 93.2  | 94.4  | 94.8  | 101.4 | 106.0 | 110.2 | 112.1 | 143.9 |
| 315   | 85.6  | 88.9  | 87.9  | 89.7  | 91.8  | 92.9  | 95.3  | 95.2  | 96.7  | 103.5 | 107.6 | 111.8 | 114.0 | 145.6 |
| 400   | 84.5  | 89.0  | 89.3  | 88.1  | 90.4  | 91.8  | 102.7 | 95.3  | 97.8  | 106.4 | 109.7 | 113.9 | 114.6 | 147.3 |
| 500   | 86.7  | 89.3  | 89.6  | 89.1  | 90.2  | 93.0  | 94.4  | 95.8  | 98.8  | 107.4 | 111.5 | 115.2 | 115.3 | 148.3 |
| 630   | 87.7  | 90.2  | 91.5  | 91.0  | 92.1  | 94.0  | 94.1  | 96.8  | 98.5  | 108.3 | 112.2 | 115.9 | 115.8 | 149.0 |
| 800   | 89.7  | 91.0  | 93.0  | 92.8  | 93.9  | 95.0  | 95.4  | 98.3  | 100.2 | 108.1 | 112.7 | 115.6 | 115.5 | 149.0 |
| 1000  | 95.7  | 97.5  | 98.7  | 96.8  | 95.9  | 96.0  | 96.4  | 98.5  | 100.5 | 107.6 | 111.2 | 115.4 | 116.0 | 148.8 |
| 1250  | 97.3  | 100.1 | 98.3  | 98.2  | 100.2 | 101.6 | 100.4 | 99.4  | 101.1 | 107.6 | 110.0 | 113.7 | 115.2 | 148.2 |
| 1600  | 103.0 | 101.4 | 100.1 | 96.7  | 96.7  | 97.8  | 99.2  | 100.0 | 101.8 | 107.4 | 108.5 | 112.0 | 114.0 | 147.2 |
| 2000  | 107.3 | 105.2 | 104.8 | 101.7 | 99.6  | 98.2  | 98.2  | 100.2 | 101.6 | 106.6 | 106.4 | 109.5 | 111.0 | 146.7 |
| 2500  | 105.0 | 105.5 | 105.8 | 104.1 | 104.2 | 102.3 | 99.0  | 101.1 | 101.7 | 107.8 | 105.5 | 108.1 | 108.9 | 147.0 |
| 3150  | 101.6 | 103.4 | 104.2 | 103.0 | 103.6 | 104.9 | 103.0 | 101.0 | 101.0 | 106.4 | 104.6 | 106.1 | 106.6 | 146.1 |
| 4000  | 99.5  | 100.5 | 101.8 | 100.8 | 101.9 | 103.2 | 102.5 | 102.4 | 102.0 | 105.7 | 102.7 | 104.0 | 104.5 | 144.9 |
| 5000  | 99.1  | 100.3 | 101.2 | 99.8  | 100.4 | 101.3 | 101.7 | 102.5 | 103.0 | 105.4 | 102.4 | 102.5 | 102.5 | 144.4 |
| 6300  | 98.0  | 99.8  | 101.1 | 98.7  | 100.0 | 100.0 | 100.5 | 101.7 | 102.7 | 103.8 | 101.9 | 101.2 | 100.9 | 143.7 |
| 8000  | 96.6  | 99.4  | 100.5 | 99.0  | 99.1  | 99.7  | 99.1  | 100.5 | 101.4 | 103.7 | 100.8 | 100.5 | 99.9  | 143.4 |
| 10000 | 96.1  | 99.5  | 100.6 | 99.7  | 99.6  | 100.3 | 99.1  | 100.0 | 100.2 | 102.7 | 100.5 | 100.5 | 100.0 | 143.8 |
| 12500 | 95.7  | 97.8  | 100.4 | 99.9  | 99.5  | 100.7 | 98.5  | 98.9  | 98.8  | 100.2 | 99.2  | 100.0 | 100.0 | 143.9 |
| 16000 | 93.3  | 96.2  | 98.1  | 98.4  | 99.3  | 99.8  | 97.8  | 97.9  | 96.7  | 98.0  | 96.5  | 97.6  | 97.4  | 143.7 |
| 20000 | 91.3  | 93.9  | 96.0  | 96.3  | 97.4  | 98.7  | 97.2  | 95.3  | 94.7  | 95.0  | 94.6  | 95.4  | 96.5  | 143.7 |
| 25000 | 88.5  | 91.4  | 93.5  | 94.3  | 96.2  | 97.6  | 96.2  | 95.2  | 94.2  | 94.1  | 92.5  | 93.8  | 92.8  | 144.7 |
| 31500 | 82.6  | 86.3  | 88.6  | 90.0  | 90.8  | 92.9  | 91.1  | 90.5  | 89.8  | 89.6  | 87.3  | 88.5  | 86.3  | 142.9 |
| 40000 | 79.9  | 83.9  | 86.4  | 86.8  | 88.6  | 90.2  | 89.3  | 88.2  | 88.0  | 87.5  | 84.7  | 86.0  | 83.9  | 144.6 |
| 50000 | 76.8  | 80.7  | 83.5  | 83.3  | 85.5  | 87.7  | 85.9  | 85.0  | 85.2  | 85.1  | 82.0  | 82.6  | 80.3  | 146.0 |
| 63000 | 73.3  | 78.6  | 80.4  | 79.5  | 82.3  | 84.7  | 81.9  | 82.7  | 82.4  | 82.5  | 81.1  | 79.7  | 76.7  | 148.4 |
| 80000 | 67.6  | 74.2  | 77.3  | 74.7  | 77.9  | 80.7  | 77.4  | 77.3  | 77.7  | 78.7  | 77.9  | 75.5  | 70.0  | 150.9 |

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0ASPL 112.4 112.9 113.4 112.0 112.4 113.0 112.6 112.7 113.5 118.8 120.9 124.3 125.2 160.8  
PNL 125.4 126.2 126.5 124.9 125.5 126.4 125.7 125.7 126.2 131.1 130.9 133.5 134.8  
PNLT 126.5 126.8 127.5 125.5 126.8 127.9 127.0 125.7 126.2 131.1 130.9 133.5 134.8  
DBA 113.0 113.1 113.4 111.7 112.0 112.3 111.7 112.1 113.0 118.3 119.7 123.0 123.8

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/MAS3-23166

|                      |                      |                        |                  |                   |                   |
|----------------------|----------------------|------------------------|------------------|-------------------|-------------------|
| VEHICLE = ADH205     | TEST DATE = 08-10-82 | LOCAT = C41 ANECH CH   | CONFIG = 5       | MODEL = AX        | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 74.00   | PAMB HG = 29.50   | RELHUM = 69.9 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC | MIKE HT =         | NBFR =            |
| FNINI = LBS XNL      | = RPM                | XNH = RPM              | V8 = 1651.1 FPS  | AE8 = 4.0 SQ IN   |                   |
| FNRAMB = LBS XNLR    | = RPM                | XNHR = RPM             | V18 = 1731.6 FPS | AE18 = 20.2 SQ IN |                   |
| RUNPT = 82F-ZER-1511 | TAPE = X1511C        | TEST PT NO = 1511      | NC = AE056       | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1511 X1511F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.3  | 80.6  | 78.8  | 78.4  | 81.0  | 79.8  | 79.2  | 80.6  | 80.3  | 84.9  | 87.5  | 87.2  | 93.9  | 126.0 |
| 63    | 89.9  | 87.2  | 85.5  | 86.5  | 88.1  | 87.0  | 87.9  | 88.8  | 86.0  | 90.0  | 91.4  | 91.9  | 100.3 | 132.2 |
| 80    | 85.7  | 90.2  | 86.2  | 87.0  | 87.1  | 90.0  | 90.1  | 88.8  | 89.0  | 91.3  | 90.2  | 93.4  | 96.5  | 132.0 |
| 100   | 86.5  | 92.0  | 88.0  | 88.1  | 89.9  | 90.8  | 90.4  | 92.6  | 90.3  | 93.8  | 95.0  | 98.9  | 102.1 | 135.3 |
| 125   | 84.4  | 87.9  | 90.0  | 90.0  | 91.1  | 92.0  | 91.3  | 91.7  | 90.7  | 95.0  | 98.4  | 102.3 | 105.3 | 137.5 |
| 160   | 85.2  | 81.7  | 87.0  | 85.0  | 87.4  | 88.0  | 91.6  | 88.5  | 88.7  | 94.8  | 99.4  | 103.1 | 107.0 | 138.0 |
| 200   | 85.6  | 86.9  | 86.6  | 86.4  | 88.0  | 89.4  | 91.8  | 92.4  | 93.6  | 96.9  | 100.3 | 105.8 | 109.2 | 140.1 |
| 250   | 82.8  | 90.6  | 87.8  | 86.6  | 88.0  | 91.8  | 93.2  | 94.4  | 94.8  | 101.4 | 106.0 | 110.2 | 112.1 | 143.9 |
| 315   | 85.6  | 88.9  | 87.9  | 89.7  | 91.8  | 92.9  | 95.3  | 95.2  | 96.7  | 103.5 | 107.6 | 111.8 | 114.0 | 145.6 |
| 400   | 84.5  | 89.0  | 89.3  | 88.1  | 90.4  | 91.8  | 102.7 | 95.3  | 97.8  | 106.4 | 109.7 | 113.9 | 114.6 | 147.3 |
| 500   | 86.7  | 89.3  | 89.6  | 89.1  | 90.2  | 93.0  | 94.4  | 95.8  | 98.8  | 107.4 | 111.5 | 115.2 | 115.3 | 148.3 |
| 630   | 87.7  | 90.2  | 91.5  | 91.0  | 92.1  | 94.0  | 94.1  | 96.8  | 98.5  | 108.3 | 112.2 | 115.9 | 115.8 | 149.0 |
| 800   | 89.7  | 91.0  | 93.0  | 92.8  | 93.9  | 95.0  | 95.4  | 98.3  | 100.2 | 108.1 | 112.7 | 115.6 | 115.5 | 149.0 |
| 1000  | 95.7  | 97.5  | 98.7  | 96.8  | 95.9  | 96.0  | 96.4  | 98.5  | 100.5 | 107.6 | 111.2 | 115.4 | 116.0 | 148.8 |
| 1250  | 97.3  | 100.1 | 98.3  | 98.2  | 100.2 | 101.6 | 100.4 | 99.4  | 101.1 | 107.6 | 110.0 | 113.7 | 115.2 | 148.2 |
| 1600  | 103.0 | 101.4 | 100.1 | 96.7  | 96.7  | 97.8  | 99.2  | 100.0 | 101.8 | 107.4 | 108.5 | 112.0 | 114.0 | 147.2 |
| 2000  | 107.3 | 105.2 | 104.8 | 101.7 | 99.6  | 98.2  | 98.2  | 100.2 | 101.6 | 106.6 | 106.4 | 109.5 | 111.0 | 146.7 |
| 2500  | 105.0 | 105.5 | 105.8 | 104.1 | 104.2 | 102.3 | 99.0  | 101.1 | 101.7 | 107.8 | 105.5 | 108.1 | 108.9 | 147.0 |
| 3150  | 101.6 | 103.4 | 104.2 | 103.0 | 103.6 | 104.9 | 103.0 | 101.0 | 101.0 | 106.4 | 104.6 | 106.1 | 106.6 | 146.1 |
| 4000  | 99.5  | 100.5 | 101.8 | 100.8 | 101.9 | 103.2 | 102.5 | 102.4 | 102.0 | 105.7 | 102.7 | 104.0 | 104.5 | 144.9 |
| 5000  | 99.1  | 100.3 | 101.2 | 99.8  | 100.4 | 101.3 | 101.7 | 102.5 | 103.0 | 105.4 | 102.4 | 102.5 | 102.5 | 144.4 |
| 6300  | 98.0  | 99.8  | 101.1 | 98.7  | 100.0 | 100.0 | 100.5 | 101.7 | 102.7 | 103.8 | 101.9 | 101.2 | 100.9 | 143.7 |
| 8000  | 96.6  | 99.4  | 100.5 | 99.0  | 99.1  | 99.7  | 99.1  | 100.5 | 101.4 | 103.7 | 100.8 | 100.5 | 99.9  | 143.4 |
| 10000 | 96.1  | 99.5  | 100.6 | 99.7  | 99.6  | 100.3 | 99.1  | 100.0 | 100.2 | 102.7 | 100.5 | 100.5 | 100.0 | 143.8 |
| 12500 | 95.7  | 97.8  | 100.4 | 99.9  | 99.5  | 100.7 | 98.5  | 98.9  | 98.8  | 100.2 | 99.2  | 100.0 | 100.0 | 143.9 |
| 16000 | 93.3  | 96.2  | 98.1  | 98.4  | 99.3  | 99.8  | 97.8  | 97.9  | 96.7  | 98.0  | 96.5  | 97.6  | 97.4  | 143.7 |
| 20000 | 91.3  | 93.9  | 96.0  | 96.3  | 97.4  | 98.7  | 97.2  | 95.3  | 94.7  | 95.0  | 94.6  | 95.4  | 96.5  | 143.7 |
| 25000 | 88.5  | 91.4  | 93.5  | 94.3  | 96.2  | 97.6  | 96.2  | 95.2  | 94.2  | 94.1  | 92.5  | 93.8  | 92.8  | 144.7 |
| 31500 | 82.6  | 86.3  | 88.6  | 90.0  | 90.8  | 92.9  | 91.1  | 90.5  | 89.8  | 89.6  | 87.3  | 88.5  | 86.3  | 142.9 |
| 40000 | 79.9  | 83.9  | 86.4  | 86.8  | 88.6  | 90.2  | 89.3  | 88.2  | 88.0  | 87.5  | 84.7  | 86.0  | 83.9  | 144.6 |
| 50000 | 76.8  | 80.7  | 83.5  | 83.3  | 85.5  | 87.7  | 85.9  | 85.0  | 85.2  | 85.1  | 82.0  | 82.6  | 80.3  | 146.0 |
| 63000 | 73.3  | 78.6  | 80.4  | 79.5  | 82.3  | 84.7  | 81.9  | 82.7  | 82.4  | 82.5  | 81.1  | 79.7  | 76.7  | 148.4 |
| 80000 | 67.6  | 74.2  | 77.3  | 74.7  | 77.9  | 80.7  | 77.4  | 77.3  | 77.7  | 78.7  | 77.9  | 75.5  | 70.0  | 150.9 |
| 8ASPL | 112.4 | 112.9 | 113.4 | 112.0 | 112.4 | 113.0 | 112.6 | 112.7 | 113.5 | 118.8 | 120.9 | 124.3 | 125.2 | 160.8 |
| PNL   | 125.4 | 126.2 | 126.5 | 124.9 | 125.5 | 126.4 | 125.7 | 125.7 | 126.2 | 131.1 | 130.9 | 133.5 | 134.8 |       |
| PNLT  | 126.5 | 126.8 | 127.5 | 125.5 | 126.8 | 127.9 | 127.0 | 125.7 | 126.2 | 131.1 | 130.9 | 133.5 | 134.8 |       |
| DBA   | 189.3 | 195.5 | 198.3 | 196.2 | 199.2 | 201.9 | 198.7 | 198.8 | 199.1 | 199.8 | 198.8 | 196.7 | 192.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICLE = ADH205 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1651.1 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1731.6 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-ZER-1511 TAPE = X1511F TEST PT NO = 1511 NC = AE056 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1511 X15111

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.   | 90.   | 100.  | 110. | 120. | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|-------|-------|-------|------|------|-------|------|------|------|-------|
| FREQ  |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 50    | 62.6 | 68.7 | 70.1 | 69.6 | 72.3  | 73.8  | 84.6  | 76.8 | 78.6 | 86.1  | 87.9 | 89.9 | 87.2 | 165.0 |
| 63    | 64.9 | 69.0 | 70.3 | 70.6 | 72.1  | 75.1  | 76.3  | 77.3 | 79.6 | 87.1  | 89.6 | 91.1 | 87.9 | 165.9 |
| 80    | 66.8 | 69.8 | 72.2 | 72.4 | 74.0  | 76.0  | 76.0  | 78.2 | 79.2 | 87.9  | 90.3 | 91.7 | 88.2 | 166.6 |
| 100   | 67.7 | 70.6 | 73.7 | 74.2 | 75.7  | 76.9  | 77.2  | 79.7 | 80.9 | 87.6  | 90.7 | 91.4 | 87.9 | 166.6 |
| 125   | 73.6 | 76.9 | 79.3 | 78.1 | 77.6  | 77.8  | 78.1  | 79.8 | 81.1 | 87.0  | 89.1 | 91.0 | 88.1 | 166.4 |
| 160   | 75.0 | 79.4 | 78.8 | 79.4 | 81.8  | 83.3  | 82.1  | 80.5 | 81.5 | 87.0  | 87.7 | 89.1 | 86.9 | 165.8 |
| 200   | 80.5 | 80.5 | 80.4 | 77.7 | 78.2  | 79.4  | 80.6  | 81.0 | 82.1 | 86.5  | 86.0 | 87.0 | 85.2 | 164.8 |
| 250   | 84.4 | 84.0 | 84.9 | 82.5 | 80.8  | 79.6  | 79.4  | 81.0 | 81.6 | 85.5  | 83.5 | 84.1 | 81.6 | 164.3 |
| 315   | 81.7 | 84.0 | 85.5 | 84.6 | 85.2  | 83.4  | 80.0  | 81.6 | 81.4 | 86.3  | 82.2 | 82.2 | 78.6 | 164.6 |
| 400   | 77.8 | 81.5 | 83.6 | 83.2 | 84.2  | 85.7  | 83.7  | 81.2 | 80.4 | 84.5  | 80.8 | 79.5 | 75.4 | 163.7 |
| 500   | 75.3 | 78.2 | 80.9 | 80.7 | 82.3  | 83.7  | 82.9  | 82.3 | 81.0 | 83.4  | 78.4 | 76.7 | 72.3 | 162.5 |
| 630   | 74.3 | 77.6 | 79.9 | 79.4 | 80.5  | 81.6  | 81.8  | 82.1 | 81.7 | 82.7  | 77.7 | 74.6 | 69.2 | 162.0 |
| 800   | 72.7 | 76.7 | 79.5 | 78.1 | 79.9  | 80.1  | 80.4  | 81.1 | 81.1 | 80.7  | 76.6 | 72.5 | 66.5 | 161.4 |
| 1000  | 70.9 | 76.1 | 78.7 | 78.2 | 78.9  | 79.6  | 78.9  | 79.7 | 79.6 | 80.4  | 75.1 | 71.2 | 64.4 | 161.0 |
| 1250  | 69.9 | 75.8 | 78.5 | 78.7 | 79.2  | 80.1  | 78.7  | 79.0 | 78.1 | 79.0  | 74.3 | 70.4 | 63.0 | 161.4 |
| 1600  | 68.7 | 73.5 | 77.9 | 78.6 | 78.8  | 80.3  | 77.9  | 77.6 | 76.3 | 75.9  | 72.1 | 68.5 | 60.7 | 161.5 |
| 2000  | 65.2 | 71.3 | 75.2 | 76.9 | 78.5  | 79.2  | 77.0  | 76.4 | 73.9 | 73.1  | 68.5 | 64.5 | 55.0 | 161.3 |
| 2500  | 61.4 | 67.8 | 72.3 | 74.1 | 76.0  | 77.5  | 75.8  | 73.1 | 70.9 | 68.9  | 64.8 | 59.5 | 49.2 | 161.3 |
| 3150  | 55.3 | 62.9 | 67.8 | 70.8 | 73.5  | 75.1  | 73.5  | 71.5 | 68.6 | 65.5  | 59.3 | 52.9 | 37.1 | 162.3 |
| 4000  | 43.2 | 53.0 | 59.1 | 62.9 | 65.0  | 67.6  | 65.4  | 63.4 | 60.4 | 56.3  | 47.8 | 38.7 | 16.1 | 160.5 |
| 5000  | 30.7 | 43.1 | 50.8 | 54.3 | 57.8  | 60.0  | 58.5  | 55.7 | 52.3 | 46.6  | 35.5 | 22.5 |      | 162.2 |
| 6300  | 9.8  | 25.6 | 35.8 | 40.0 | 44.6  | 47.7  | 45.1  | 41.7 | 37.4 | 30.0  | 15.0 |      |      | 163.6 |
| 8000  |      |      | 11.3 | 16.9 | 23.4  | 26.9  | 23.0  | 20.2 | 13.3 | 2.6   |      |      |      | 166.0 |
| 10000 |      |      |      |      |       |       |       |      |      |       |      |      |      | 168.5 |
| 12500 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 16000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 20000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 25000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 31500 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 40000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 50000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 63000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| 80000 |      |      |      |      |       |       |       |      |      |       |      |      |      |       |
| OASPL | 88.9 | 90.9 | 92.5 | 91.8 | 92.6  | 93.3  | 92.9  | 92.5 | 92.7 | 97.3  | 98.0 | 99.2 | 96.2 | 178.1 |
| PNL   | 94.0 | 96.7 | 99.0 | 99.2 | 100.6 | 101.6 | 100.4 | 99.7 | 98.6 | 101.3 | 99.3 | 99.1 | 95.3 |       |
| PNLT  | 94.5 | 96.7 | 99.6 | 99.2 | 101.2 | 102.4 | 100.4 | 99.7 | 99.1 | 101.9 | 99.3 | 99.1 | 95.3 |       |
| DBA   | 82.8 | 86.0 | 88.5 | 88.4 | 89.4  | 90.3  | 89.1  | 88.9 | 88.2 | 89.7  | 86.2 | 85.3 | 81.8 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 7.595      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

|          |          |           |            |          |                |        |         |          |             |              |            |              |
|----------|----------|-----------|------------|----------|----------------|--------|---------|----------|-------------|--------------|------------|--------------|
| VEHICLE  | = ADH205 | TEST DATE | = 08-10-82 | LOCAT    | = C41 ANECH CH | CONFIG | = 5     | MODEL    | = AX        | FLTVEL       | = 0. FPS   |              |
| IAPLHA   | = SB59   | IEGA      | = NO       | PWL AREA | = FULL SPHERE  | TAMB F | = 74.00 | PAMB HG  | = 29.50     | RELHUM       | = 69.9 PCT |              |
| WIND DIR | =        | DEG       |            | WIND VEL | =              | MPH    |         | EXT DIST | = 2400.0 FT | EXT CONFIG   | = SL       |              |
| FNIN1    | =        | LBS       | XNL        | =        | RPM            | XNH    | =       | RPM      | V8          | = 1651.1 FPS | AE8        | = 4.0 SQ IN  |
| FNRAMB   | =        | LBS       | XNLR       | =        | RPM            | XNHR   | =       | RPM      | V18         | = 1731.6 FPS | AE18       | = 20.2 SQ IN |

RUNPT = 82F-ZER-1511 TAPE = X15111 TEST PT NO = 1511 NC = AE055 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1514 X1514C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120. | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|
| 50    | 85.5  | 82.3  | 78.3  | 77.6  | 81.0  | 80.1  | 80.0  | 81.9 | 81.3 | 84.9  | 89.5  | 89.0  | 97.6  | 128.2 |
| 63    | 92.4  | 86.2  | 84.5  | 85.3  | 90.1  | 87.2  | 86.1  | 89.0 | 85.2 | 88.0  | 91.9  | 90.9  | 98.0  | 131.6 |
| 80    | 85.2  | 89.5  | 86.0  | 86.3  | 86.9  | 88.7  | 88.9  | 88.0 | 89.0 | 91.1  | 89.9  | 91.9  | 98.3  | 131.7 |
| 100   | 84.5  | 89.5  | 85.3  | 85.3  | 87.7  | 88.0  | 88.4  | 90.1 | 87.3 | 90.6  | 91.7  | 95.9  | 101.3 | 133.1 |
| 125   | 82.2  | 85.2  | 87.0  | 86.7  | 88.1  | 89.0  | 88.6  | 89.2 | 87.5 | 91.5  | 94.9  | 99.8  | 103.5 | 135.0 |
| 160   | 82.9  | 78.7  | 84.0  | 82.0  | 83.6  | 84.7  | 90.1  | 85.0 | 85.0 | 90.8  | 95.7  | 99.9  | 104.8 | 135.2 |
| 200   | 84.8  | 81.6  | 81.1  | 81.2  | 83.0  | 85.4  | 88.0  | 87.7 | 89.6 | 92.7  | 95.3  | 101.3 | 105.4 | 136.0 |
| 250   | 79.8  | 82.3  | 81.6  | 81.4  | 82.5  | 85.6  | 90.0  | 88.6 | 88.8 | 95.9  | 100.5 | 105.2 | 107.1 | 138.7 |
| 315   | 83.4  | 92.7  | 81.7  | 83.2  | 84.6  | 86.2  | 89.8  | 89.0 | 90.7 | 98.2  | 101.4 | 106.3 | 107.2 | 139.5 |
| 400   | 79.2  | 82.0  | 82.3  | 81.6  | 83.9  | 85.5  | 95.9  | 88.6 | 90.8 | 99.6  | 103.5 | 107.4 | 106.3 | 140.4 |
| 500   | 80.0  | 81.3  | 82.8  | 82.8  | 84.2  | 86.3  | 87.9  | 88.8 | 92.1 | 101.1 | 105.5 | 107.9 | 103.8 | 140.8 |
| 630   | 79.7  | 81.7  | 83.2  | 83.3  | 84.6  | 87.0  | 87.4  | 90.3 | 92.0 | 102.0 | 104.7 | 107.4 | 101.0 | 140.2 |
| 800   | 81.2  | 82.7  | 84.2  | 83.8  | 85.9  | 87.2  | 89.1  | 91.8 | 94.0 | 102.3 | 105.0 | 105.1 | 96.8  | 139.5 |
| 1000  | 84.9  | 84.7  | 85.5  | 84.3  | 86.6  | 88.0  | 89.1  | 91.8 | 94.2 | 101.8 | 103.2 | 102.9 | 94.3  | 138.2 |
| 1250  | 92.5  | 94.3  | 90.8  | 88.2  | 88.4  | 90.6  | 91.4  | 92.9 | 95.1 | 102.1 | 102.3 | 98.9  | 92.7  | 138.1 |
| 1600  | 100.5 | 101.2 | 99.1  | 95.7  | 94.0  | 92.8  | 92.9  | 94.5 | 96.1 | 101.9 | 101.5 | 96.5  | 93.0  | 140.1 |
| 2000  | 101.8 | 102.9 | 103.1 | 101.0 | 98.6  | 95.2  | 93.2  | 94.2 | 95.3 | 101.6 | 99.4  | 94.5  | 92.2  | 141.6 |
| 2500  | 100.0 | 102.0 | 102.3 | 101.8 | 102.4 | 100.8 | 96.2  | 95.6 | 96.2 | 102.3 | 98.0  | 93.1  | 90.4  | 142.4 |
| 3150  | 96.6  | 98.7  | 99.2  | 98.5  | 99.8  | 102.1 | 100.8 | 97.7 | 96.3 | 101.1 | 97.4  | 91.8  | 88.3  | 141.4 |
| 4000  | 95.0  | 96.0  | 96.8  | 96.5  | 97.2  | 98.9  | 99.0  | 99.6 | 97.5 | 100.7 | 95.9  | 90.7  | 88.0  | 140.0 |
| 5000  | 95.6  | 96.8  | 96.9  | 95.6  | 95.9  | 96.8  | 97.0  | 98.8 | 99.5 | 100.6 | 96.4  | 90.5  | 88.0  | 139.7 |
| 6300  | 96.0  | 97.0  | 97.1  | 94.9  | 96.0  | 95.7  | 95.8  | 97.7 | 98.4 | 101.1 | 95.4  | 90.7  | 87.7  | 139.6 |
| 8000  | 95.6  | 97.7  | 98.2  | 95.7  | 95.6  | 96.0  | 94.9  | 96.5 | 97.2 | 100.5 | 95.3  | 90.5  | 87.4  | 139.7 |
| 10000 | 96.3  | 98.8  | 99.6  | 98.4  | 98.3  | 98.1  | 96.1  | 96.8 | 95.9 | 99.2  | 94.5  | 91.0  | 87.7  | 141.1 |
| 12500 | 95.7  | 97.1  | 99.7  | 98.4  | 98.5  | 99.5  | 97.3  | 96.7 | 95.5 | 96.7  | 93.4  | 90.5  | 87.0  | 141.8 |
| 16000 | 92.8  | 96.2  | 96.8  | 97.2  | 98.0  | 98.3  | 96.8  | 96.7 | 94.7 | 95.0  | 91.5  | 88.6  | 85.4  | 142.0 |
| 20000 | 91.3  | 93.6  | 95.5  | 95.3  | 96.4  | 97.4  | 96.0  | 94.3 | 92.9 | 93.2  | 89.9  | 86.6  | 83.3  | 142.2 |
| 25000 | 88.7  | 91.9  | 93.7  | 93.8  | 94.7  | 96.6  | 98.0  | 93.7 | 93.0 | 92.1  | 87.2  | 84.3  | 80.0  | 143.9 |
| 31500 | 82.4  | 86.5  | 88.3  | 89.3  | 90.0  | 92.1  | 90.4  | 89.7 | 88.8 | 88.3  | 82.8  | 79.7  | 74.0  | 141.9 |
| 40000 | 79.1  | 83.2  | 85.4  | 85.3  | 87.8  | 89.9  | 88.3  | 87.4 | 86.5 | 85.2  | 79.9  | 76.2  | 70.6  | 143.3 |
| 50000 | 75.8  | 79.9  | 81.8  | 81.5  | 84.5  | 86.7  | 84.7  | 84.2 | 83.7 | 82.8  | 77.2  | 73.9  | 66.5  | 144.5 |
| 63000 | 71.8  | 76.4  | 78.2  | 77.2  | 80.6  | 82.7  | 80.7  | 81.2 | 80.6 | 79.5  | 75.1  | 69.5  | 62.7  | 146.2 |
| 80000 | 65.6  | 72.7  | 73.8  | 72.0  | 75.4  | 78.5  | 75.1  | 75.6 | 75.2 | 75.0  | 70.1  | 64.5  | 54.5  | 148.0 |

CASPL 108.7 110.2 110.4 109.2 109.5 109.9 109.1 108.8 108.9 113.7 114.1 115.6 115.1 156.4

PNL 121.0 122.6 122.7 121.7 122.3 122.8 122.1 121.8 121.7 126.0 124.2 123.5 121.9

PNLT 121.6 122.6 122.7 122.2 123.4 122.8 123.3 121.8 121.7 126.0 124.2 123.5 121.9

DBA 108.7 110.1 110.0 108.6 108.6 108.7 107.5 107.7 108.0 113.1 112.5 112.4 108.8

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICLE = ADH204 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
1APLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1627.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1728.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-1514 TAPE = X1514C TEST PT NO = 1514 NC = AE056 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-1514 XT1514F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 86.0  | 87.5  | 85.6  | 84.1  | 83.8  | 85.6  | 88.1  | 85.0  | 87.2  | 93.9  | 96.5  | 101.9 | 104.6 | 136.0 |
| 315   | 86.0  | 87.5  | 85.6  | 84.1  | 85.9  | 86.4  | 88.5  | 86.2  | 87.5  | 95.5  | 99.0  | 103.7 | 105.2 | 137.3 |
| 400   | 88.7  | 87.2  | 85.3  | 85.7  | 85.7  | 85.8  | 94.6  | 85.8  | 89.1  | 97.4  | 101.5 | 105.2 | 104.4 | 138.5 |
| 500   | 86.4  | 88.1  | 87.0  | 84.9  | 86.1  | 86.6  | 86.7  | 86.2  | 89.4  | 98.8  | 101.3 | 105.7 | 103.8 | 138.5 |
| 630   | 87.7  | 87.7  | 87.8  | 86.3  | 86.6  | 87.4  | 86.2  | 87.7  | 92.9  | 100.8 | 103.6 | 106.2 | 103.6 | 139.6 |
| 800   | 87.3  | 88.1  | 88.2  | 86.8  | 87.9  | 87.8  | 88.6  | 90.2  | 93.4  | 100.6 | 102.3 | 105.0 | 103.4 | 138.9 |
| 1000  | 88.9  | 89.2  | 89.3  | 87.4  | 88.4  | 88.6  | 88.7  | 90.2  | 94.9  | 101.7 | 102.4 | 102.2 | 103.0 | 138.6 |
| 1250  | 90.5  | 89.6  | 89.5  | 87.2  | 90.2  | 91.4  | 91.2  | 91.7  | 96.2  | 101.6 | 101.7 | 99.6  | 103.1 | 138.4 |
| 1600  | 99.6  | 100.1 | 95.3  | 91.2  | 96.0  | 93.9  | 93.3  | 93.8  | 96.0  | 101.7 | 99.6  | 97.6  | 102.3 | 139.6 |
| 2000  | 107.9 | 107.4 | 103.9 | 99.1  | 100.7 | 96.5  | 93.9  | 94.2  | 98.0  | 103.9 | 100.1 | 98.3  | 102.6 | 144.4 |
| 2500  | 108.6 | 108.6 | 107.5 | 104.2 | 104.9 | 102.4 | 97.4  | 96.2  | 98.8  | 103.8 | 100.7 | 98.3  | 101.8 | 146.5 |
| 3150  | 105.2 | 106.7 | 106.4 | 105.1 | 103.1 | 104.1 | 102.2 | 98.8  | 100.6 | 103.7 | 99.7  | 97.9  | 102.4 | 145.9 |
| 4000  | 104.2 | 105.3 | 104.8 | 102.9 | 100.9 | 101.5 | 101.2 | 101.3 | 102.0 | 102.9 | 99.5  | 97.0  | 102.0 | 144.8 |
| 5000  | 102.5 | 102.6 | 102.5 | 101.2 | 99.5  | 99.8  | 99.3  | 100.2 | 100.7 | 103.1 | 98.1  | 96.9  | 101.4 | 143.4 |
| 6300  | 100.9 | 101.9 | 101.6 | 99.7  | 99.5  | 98.7  | 98.1  | 98.9  | 99.7  | 102.8 | 98.3  | 97.0  | 101.3 | 142.9 |
| 8000  | 100.5 | 101.3 | 101.1 | 98.5  | 99.1  | 99.0  | 97.2  | 97.6  | 99.6  | 102.8 | 98.4  | 97.9  | 101.5 | 142.9 |
| 10000 | 99.9  | 101.8 | 102.0 | 99.1  | 102.1 | 101.1 | 98.5  | 98.7  | 96.9  | 97.6  | 94.7  | 94.7  | 98.2  | 143.4 |
| 12500 | 101.5 | 103.7 | 104.0 | 102.2 | 102.5 | 102.5 | 98.7  | 96.7  | 96.7  | 96.5  | 93.3  | 93.4  | 97.1  | 145.3 |
| 16000 | 102.0 | 102.7 | 104.4 | 102.1 | 102.1 | 101.3 | 98.3  | 96.7  | 95.2  | 95.1  | 92.0  | 91.8  | 95.4  | 146.2 |
| 20000 | 98.7  | 101.4 | 101.1 | 100.5 | 100.4 | 100.4 | 97.4  | 94.3  | 95.9  | 94.5  | 90.0  | 90.1  | 92.8  | 146.2 |
| 25000 | 96.6  | 98.2  | 99.2  | 98.0  | 98.8  | 99.6  | 99.4  | 93.7  | 94.3  | 94.2  | 89.9  | 90.6  | 92.2  | 147.2 |
| 31500 | 93.3  | 95.7  | 96.6  | 95.8  | 94.1  | 95.1  | 92.3  | 90.8  | 92.4  | 91.5  | 87.5  | 87.5  | 89.3  | 146.8 |
| 40000 | 86.1  | 89.5  | 90.4  | 90.3  | 92.4  | 92.9  | 90.0  | 88.1  | 90.5  | 89.7  | 85.0  | 85.4  | 85.7  | 147.2 |
| 50000 | 85.2  | 88.0  | 88.8  | 87.1  | 89.1  | 89.7  | 86.7  | 85.5  | 87.7  | 86.3  | 82.4  | 79.9  | 80.3  | 148.7 |
| 63000 | 81.0  | 83.8  | 84.2  | 82.4  | 85.2  | 85.7  | 82.6  | 82.1  | 83.8  | 83.3  | 78.8  | 76.3  | 73.3  | 150.0 |
| 80000 | 75.5  | 78.8  | 79.1  | 76.6  | 80.0  | 81.5  | 77.0  | 76.5  | 74.0  | 73.5  | 69.0  | 66.5  | 63.5  | 151.1 |

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OASPL 114.8 115.5 114.8 112.6 112.7 112.2 110.3 109.3 110.5 114.1 112.8 114.2 115.4 159.3  
 PNL 127.3 127.6 126.6 124.6 124.2 124.0 122.6 121.9 123.2 126.6 124.0 123.4 126.6  
 PNLT 127.3 127.6 126.6 124.6 125.2 124.0 123.7 121.9 123.2 126.6 124.0 123.4 126.6  
 DBA 197.1 200.3 200.7 198.4 201.5 202.8 198.7 198.1 197.5 196.9 192.5 190.0 187.7

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/20 CH C-D, C-D/DFSC-5/NAS3-23166

VEHICL = ADH204 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1627.2 FPS AE8 = 4.0 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1728.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-1514 TAPE = XT1514F TEST PT NO = 1514 NC = AE056 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1514 X15141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ   | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|--------|------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|-------|
| 50     | 66.9 | 66.9  | 66.1  | 67.2  | 67.6  | 67.8  | 76.5  | 67.3 | 69.9 | 77.1 | 79.7 | 81.1 | 77.0 | 156.1 |
| 63     | 64.5 | 67.7  | 67.8  | 66.3  | 68.0  | 68.6  | 68.6  | 67.7 | 70.1 | 78.4 | 79.5 | 81.7 | 76.3 | 156.1 |
| 80     | 65.8 | 67.3  | 68.5  | 67.7  | 68.4  | 69.4  | 68.1  | 69.1 | 73.7 | 80.4 | 81.7 | 82.1 | 76.1 | 157.2 |
| 100    | 65.4 | 67.7  | 68.9  | 68.2  | 69.7  | 69.7  | 70.4  | 71.6 | 74.1 | 80.2 | 80.3 | 80.8 | 75.7 | 156.6 |
| 125    | 66.8 | 68.7  | 69.9  | 68.7  | 70.2  | 70.5  | 70.4  | 71.6 | 75.5 | 81.2 | 80.3 | 77.8 | 75.1 | 156.2 |
| 160    | 68.2 | 69.0  | 69.9  | 68.4  | 71.9  | 73.1  | 72.8  | 72.9 | 76.6 | 81.0 | 79.4 | 75.0 | 74.8 | 156.0 |
| 200    | 77.0 | 79.3  | 75.5  | 72.3  | 77.5  | 75.5  | 74.7  | 74.8 | 76.3 | 80.8 | 77.1 | 72.7 | 73.5 | 157.3 |
| 250    | 85.0 | 86.2  | 84.0  | 79.9  | 82.0  | 77.8  | 75.2  | 75.0 | 78.0 | 82.7 | 77.3 | 72.9 | 73.2 | 162.0 |
| 315    | 85.3 | 87.1  | 87.2  | 84.7  | 85.9  | 83.6  | 78.4  | 76.7 | 78.6 | 82.3 | 77.4 | 72.3 | 71.6 | 164.1 |
| 400    | 81.4 | 84.8  | 85.8  | 85.3  | 83.7  | 85.0  | 82.9  | 79.0 | 79.9 | 81.8 | 76.0 | 71.3 | 71.2 | 163.5 |
| 500    | 79.9 | 83.0  | 83.8  | 82.8  | 81.3  | 82.0  | 81.6  | 81.2 | 81.0 | 80.6 | 75.2 | 69.7 | 69.8 | 162.4 |
| 630    | 77.7 | 79.9  | 81.2  | 80.8  | 79.7  | 80.1  | 79.4  | 79.8 | 79.4 | 80.4 | 73.3 | 69.0 | 68.1 | 161.0 |
| 800    | 75.7 | 78.9  | 80.0  | 79.0  | 79.4  | 78.8  | 78.0  | 78.3 | 78.1 | 79.8 | 73.0 | 68.4 | 66.9 | 160.5 |
| 1000   | 74.8 | 78.0  | 79.2  | 77.7  | 78.9  | 78.9  | 77.0  | 77.0 | 77.8 | 79.4 | 72.7 | 68.6 | 66.0 | 160.5 |
| 1250   | 73.7 | 78.1  | 80.0  | 78.1  | 81.7  | 80.9  | 78.1  | 77.7 | 74.9 | 73.9 | 68.5 | 64.6 | 61.2 | 161.0 |
| 1600   | 74.5 | 79.4  | 81.5  | 80.8  | 81.8  | 82.0  | 78.0  | 75.4 | 74.2 | 72.2 | 66.2 | 61.9 | 57.8 | 162.9 |
| 2000   | 74.0 | 77.8  | 81.5  | 80.5  | 81.2  | 80.7  | 77.4  | 75.1 | 72.4 | 70.2 | 64.0 | 58.7 | 53.0 | 163.8 |
| 2500   | 68.9 | 75.2  | 77.4  | 78.3  | 79.0  | 79.3  | 76.0  | 72.1 | 72.2 | 68.4 | 60.2 | 54.2 | 45.5 | 163.8 |
| 3150   | 63.4 | 69.7  | 73.6  | 74.3  | 76.0  | 77.1  | 76.6  | 69.9 | 68.7 | 65.7 | 56.7 | 49.7 | 36.5 | 164.9 |
| 4000   | 53.8 | 62.4  | 67.2  | 68.7  | 68.3  | 69.8  | 66.5  | 63.7 | 63.0 | 58.2 | 48.0 | 37.7 | 19.2 | 164.4 |
| 5000   | 36.9 | 48.7  | 54.7  | 57.9  | 61.7  | 62.7  | 59.3  | 55.7 | 54.8 | 48.9 | 35.8 | 21.9 |      | 164.8 |
| 6300   | 18.2 | 33.0  | 41.1  | 43.9  | 48.2  | 49.7  | 45.9  | 42.2 | 40.0 | 31.3 | 15.4 |      |      | 166.3 |
| 8000   |      | 3.9   | 15.1  | 19.9  | 26.2  | 27.9  | 23.7  | 19.6 | 14.7 | 3.4  |      |      |      | 167.6 |
| 10000  |      |       |       |       |       |       |       |      |      |      |      |      |      | 168.7 |
| 25000  |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 60000  |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 200000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 250000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 315000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 400000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 500000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 630000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| 800000 |      |       |       |       |       |       |       |      |      |      |      |      |      |       |
| GASPL  | 90.7 | 93.1  | 93.5  | 92.1  | 92.7  | 92.2  | 90.2  | 88.8 | 89.4 | 92.3 | 89.7 | 88.8 | 85.2 | 176.9 |
| PNL    | 96.6 | 99.7  | 101.8 | 100.9 | 101.8 | 101.8 | 99.9  | 97.0 | 96.9 | 97.7 | 92.6 | 89.3 | 86.3 |       |
| PNLT   | 96.6 | 100.4 | 102.5 | 101.5 | 102.3 | 101.8 | 101.6 | 97.5 | 97.4 | 98.2 | 92.6 | 89.3 | 86.3 |       |
| DBA    | 86.3 | 89.5  | 90.9  | 90.0  | 90.7  | 90.6  | 88.2  | 86.7 | 86.2 | 87.0 | 81.1 | 76.8 | 75.4 |       |

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MODEL AREA = 156.6 SQ CM ( 24.3 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 7.595 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/20 CH C-D,C-D/DFSC-5/NAS3-23166

VEHICL = ADH204 TEST DATE = 08-10-82 LOCAT = C41 ANECH CH CONFIG = 5 MODEL = AX FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 74.00 PAMB HG = 29.50 RELHUM = 69.9 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1627.2 FPS AE8 = 4.0 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1728.8 FPS AE18 = 20.2 SQ IN

RUNPT = 82F-400-1514 TAPE = X15141 TEST PT NO = 1514 NC = AE056 CORR FAN SPEED = RPM

#### 4.6 Acoustic Data of DFSC-6

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0607 X0607C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.9 | 79.7  | 78.7  | 78.2 | 80.1 | 79.7 | 82.1  | 79.7  | 83.2  | 87.0  | 87.4  | 88.3  | 88.0  | 125.4 |
| 63    | 89.5 | 86.0  | 85.3  | 82.6 | 88.0 | 87.6 | 90.0  | 83.6  | 89.6  | 95.9  | 93.8  | 95.0  | 93.4  | 132.5 |
| 80    | 84.5 | 89.8  | 84.8  | 86.4 | 85.2 | 88.1 | 90.0  | 87.6  | 89.3  | 89.7  | 92.3  | 94.0  | 94.6  | 131.4 |
| 100   | 83.0 | 89.5  | 85.3  | 87.3 | 88.1 | 89.8 | 90.1  | 90.8  | 92.3  | 92.6  | 94.5  | 97.9  | 99.3  | 134.0 |
| 125   | 80.6 | 83.2  | 86.4  | 88.0 | 87.6 | 88.2 | 88.8  | 88.2  | 90.2  | 92.5  | 99.9  | 101.1 | 102.5 | 135.9 |
| 160   | 80.2 | 81.0  | 84.5  | 83.8 | 83.9 | 86.2 | 88.4  | 86.3  | 90.2  | 92.8  | 99.9  | 101.9 | 105.3 | 136.8 |
| 200   | 82.5 | 84.6  | 83.8  | 85.4 | 86.2 | 88.1 | 90.0  | 90.4  | 94.6  | 95.9  | 102.0 | 105.7 | 106.9 | 139.3 |
| 250   | 81.5 | 87.3  | 86.3  | 86.1 | 86.5 | 89.1 | 91.7  | 92.9  | 95.6  | 100.1 | 106.5 | 109.5 | 109.6 | 142.8 |
| 315   | 83.1 | 87.4  | 85.4  | 87.9 | 88.8 | 90.6 | 92.5  | 92.9  | 98.1  | 101.5 | 108.1 | 110.5 | 111.2 | 144.2 |
| 400   | 83.1 | 86.8  | 87.6  | 87.7 | 88.7 | 90.4 | 92.7  | 93.9  | 100.1 | 105.7 | 111.3 | 112.5 | 111.7 | 146.3 |
| 500   | 84.3 | 88.4  | 88.1  | 88.4 | 89.8 | 92.6 | 93.8  | 95.2  | 101.4 | 107.7 | 113.1 | 113.0 | 111.4 | 147.4 |
| 630   | 85.8 | 89.1  | 89.1  | 90.4 | 90.7 | 93.6 | 95.5  | 97.1  | 102.1 | 108.9 | 114.8 | 114.0 | 112.6 | 148.7 |
| 800   | 86.8 | 90.4  | 91.4  | 92.2 | 91.8 | 94.1 | 96.5  | 97.9  | 104.4 | 109.0 | 115.3 | 114.8 | 112.9 | 149.3 |
| 1000  | 95.5 | 98.3  | 96.8  | 95.3 | 93.9 | 96.3 | 96.9  | 99.1  | 104.3 | 108.1 | 115.3 | 114.4 | 112.8 | 149.2 |
| 1250  | 92.7 | 97.9  | 97.2  | 98.4 | 97.6 | 99.2 | 99.3  | 100.5 | 105.5 | 107.5 | 114.9 | 114.3 | 112.4 | 149.1 |
| 1600  | 92.3 | 93.5  | 93.9  | 95.0 | 95.5 | 97.9 | 99.2  | 100.8 | 106.6 | 107.0 | 114.8 | 114.3 | 112.3 | 149.0 |
| 2000  | 95.3 | 97.3  | 96.2  | 95.6 | 94.7 | 96.8 | 98.8  | 100.9 | 106.2 | 107.0 | 113.5 | 112.6 | 110.6 | 148.0 |
| 2500  | 99.9 | 99.2  | 97.3  | 95.8 | 94.9 | 97.5 | 98.9  | 101.3 | 105.4 | 106.7 | 112.2 | 111.0 | 108.1 | 147.0 |
| 3150  | 99.8 | 101.3 | 100.6 | 98.1 | 95.5 | 97.8 | 98.7  | 101.1 | 105.5 | 105.1 | 110.3 | 109.0 | 106.7 | 146.0 |
| 4000  | 96.2 | 98.8  | 99.4  | 99.9 | 98.5 | 98.2 | 98.4  | 100.7 | 104.6 | 103.3 | 108.5 | 107.8 | 104.8 | 144.9 |
| 5000  | 92.3 | 95.2  | 96.1  | 98.0 | 98.0 | 99.7 | 99.1  | 100.4 | 104.2 | 102.3 | 106.9 | 105.9 | 103.6 | 143.9 |
| 6300  | 89.7 | 92.8  | 93.1  | 94.7 | 95.7 | 99.2 | 100.0 | 99.9  | 103.4 | 100.6 | 105.4 | 104.6 | 102.8 | 143.0 |
| 8000  | 87.8 | 90.9  | 91.4  | 92.1 | 93.3 | 96.6 | 98.8  | 99.6  | 102.1 | 99.3  | 102.7 | 102.4 | 101.3 | 141.6 |
| 10000 | 86.5 | 90.0  | 90.8  | 91.6 | 93.0 | 95.7 | 98.2  | 99.4  | 100.9 | 98.1  | 101.9 | 102.3 | 101.1 | 141.5 |
| 12500 | 83.5 | 88.5  | 89.8  | 90.0 | 91.0 | 94.0 | 95.8  | 97.3  | 100.4 | 96.4  | 100.5 | 101.0 | 100.0 | 140.9 |
| 16000 | 81.5 | 87.2  | 88.6  | 89.6 | 89.2 | 91.9 | 94.5  | 95.1  | 97.8  | 94.2  | 98.5  | 98.7  | 98.7  | 140.2 |
| 20000 | 79.4 | 83.6  | 86.5  | 86.5 | 86.5 | 90.0 | 91.3  | 91.7  | 94.7  | 91.6  | 95.8  | 96.2  | 93.8  | 139.0 |
| 25000 | 76.1 | 81.8  | 86.3  | 83.9 | 84.5 | 86.8 | 88.3  | 88.1  | 90.8  | 86.8  | 90.8  | 93.6  | 91.5  | 138.1 |
| 31500 | 72.5 | 77.9  | 83.7  | 80.7 | 80.5 | 83.6 | 83.6  | 83.9  | 87.2  | 84.0  | 86.7  | 89.2  | 87.0  | 137.3 |
| 40000 | 67.8 | 73.5  | 83.5  | 76.4 | 76.7 | 80.1 | 79.4  | 79.5  | 83.1  | 79.8  | 82.1  | 84.9  | 81.4  | 137.5 |
| 50000 | 61.6 | 67.8  | 81.9  | 70.8 | 71.0 | 74.3 | 73.7  | 73.0  | 76.8  | 73.0  | 77.5  | 80.5  | 76.6  | 137.4 |
| 63000 | 56.8 | 62.6  | 80.6  | 64.9 | 66.7 | 69.5 | 67.8  | 68.2  | 71.1  | 67.3  | 72.9  | 76.8  | 70.6  | 139.4 |
| 80000 | 50.6 | 56.5  | 77.1  | 58.1 | 60.3 | 62.9 | 61.3  | 60.2  | 64.0  | 60.0  | 67.6  | 70.3  | 62.0  | 141.5 |

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GASPL 106.2 108.2 107.8 107.8 107.3 109.4 110.6 112.0 116.4 118.2 124.5 124.2 122.8 159.6  
PNL 120.3 122.3 121.8 121.6 121.0 122.4 123.1 124.8 129.1 130.0 135.6 135.1 133.3  
PNLT 121.9 123.7 121.8 122.7 121.0 122.4 123.1 124.8 129.1 130.0 135.6 135.1 133.3  
DBA 106.8 108.6 108.0 107.8 107.2 109.1 110.1 111.7 116.3 117.7 124.1 123.5 121.6

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-6/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VERTCL = ADH395      | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 44.10       | PAMB HG = 29.32   | RELHUM = 71.4 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINI =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1685.8 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 1936.5 FPS | AE18 = 18.0 SQ IN |                   |
| RUNPT = 82F-ZER-0607 | TAPE = X0607C        | TEST PT NO = 0607      | NC = AE074           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0607 X0607F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ    | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50      | 81.9  | 79.7  | 78.7  | 78.2  | 80.1  | 79.7  | 82.1  | 79.7  | 83.2  | 87.0  | 87.4  | 88.3  | 88.0  | 125.4 |
| 63      | 89.5  | 86.0  | 85.3  | 82.6  | 88.0  | 87.6  | 90.0  | 83.6  | 89.6  | 95.9  | 93.8  | 95.0  | 93.4  | 132.5 |
| 80      | 84.5  | 89.8  | 84.8  | 86.4  | 85.2  | 88.1  | 90.0  | 87.6  | 89.3  | 89.7  | 92.3  | 94.0  | 94.6  | 131.4 |
| 100     | 83.0  | 89.5  | 85.3  | 87.3  | 88.1  | 89.8  | 90.1  | 90.8  | 92.3  | 92.6  | 94.5  | 97.9  | 99.3  | 134.0 |
| 125     | 80.6  | 83.2  | 86.4  | 88.0  | 87.6  | 88.2  | 88.8  | 88.2  | 90.2  | 92.5  | 99.9  | 101.1 | 102.5 | 135.9 |
| 160     | 80.2  | 81.0  | 84.5  | 83.8  | 83.9  | 86.2  | 88.4  | 86.3  | 90.2  | 92.8  | 99.9  | 101.9 | 105.3 | 136.8 |
| 200     | 82.5  | 84.6  | 83.8  | 85.4  | 86.2  | 88.1  | 90.0  | 90.4  | 94.6  | 95.9  | 102.0 | 105.7 | 106.9 | 139.3 |
| 250     | 81.5  | 87.3  | 86.3  | 86.1  | 86.5  | 89.1  | 91.7  | 92.9  | 95.6  | 100.1 | 106.5 | 109.5 | 109.6 | 142.8 |
| 315     | 83.1  | 87.4  | 85.4  | 87.9  | 88.8  | 90.6  | 92.5  | 92.9  | 98.1  | 101.5 | 108.1 | 110.5 | 111.2 | 144.2 |
| 400     | 83.1  | 86.8  | 87.6  | 87.7  | 88.7  | 90.4  | 92.7  | 93.9  | 100.1 | 105.7 | 111.3 | 112.5 | 111.7 | 146.3 |
| 500     | 84.3  | 88.4  | 88.1  | 88.4  | 89.8  | 92.6  | 93.8  | 95.2  | 101.4 | 107.7 | 113.1 | 113.0 | 111.4 | 147.4 |
| 630     | 85.8  | 89.1  | 89.1  | 90.4  | 90.7  | 93.6  | 95.5  | 97.1  | 102.1 | 108.9 | 114.8 | 114.0 | 112.6 | 148.7 |
| 800     | 88.8  | 90.4  | 91.4  | 92.2  | 91.8  | 94.1  | 96.5  | 97.9  | 104.4 | 109.0 | 115.3 | 114.8 | 112.9 | 149.3 |
| 1000    | 95.5  | 98.3  | 96.8  | 95.3  | 93.9  | 96.3  | 96.9  | 99.1  | 104.3 | 108.1 | 115.3 | 114.4 | 112.8 | 149.2 |
| 1250    | 92.7  | 97.9  | 97.2  | 98.4  | 97.6  | 99.2  | 99.3  | 100.5 | 105.5 | 107.5 | 114.9 | 114.3 | 112.4 | 149.1 |
| 1600    | 92.3  | 93.5  | 93.9  | 95.0  | 95.5  | 97.9  | 99.2  | 100.8 | 106.6 | 107.0 | 114.8 | 114.3 | 112.3 | 149.0 |
| 2000    | 95.3  | 97.3  | 96.2  | 95.6  | 94.7  | 96.8  | 98.8  | 100.9 | 106.2 | 107.0 | 113.5 | 112.6 | 110.6 | 148.0 |
| 2500    | 99.9  | 99.2  | 97.3  | 95.8  | 94.9  | 97.5  | 98.9  | 101.3 | 105.4 | 106.7 | 112.2 | 111.0 | 108.1 | 147.0 |
| 3150    | 99.8  | 101.3 | 100.6 | 98.1  | 95.5  | 97.8  | 98.7  | 101.1 | 105.5 | 105.1 | 110.3 | 109.0 | 106.7 | 146.0 |
| 4000    | 96.2  | 98.8  | 99.4  | 99.9  | 98.5  | 98.2  | 98.4  | 100.7 | 104.6 | 103.3 | 108.5 | 107.8 | 104.8 | 144.9 |
| 5000    | 92.3  | 95.2  | 96.1  | 98.0  | 98.0  | 99.7  | 99.1  | 100.4 | 104.2 | 102.3 | 106.9 | 105.9 | 103.6 | 143.9 |
| 6300    | 89.7  | 92.8  | 93.1  | 94.7  | 95.7  | 99.2  | 100.0 | 99.9  | 103.4 | 100.6 | 105.4 | 104.6 | 102.8 | 143.0 |
| 8000    | 87.8  | 90.9  | 91.4  | 92.1  | 93.3  | 96.6  | 98.8  | 99.6  | 102.1 | 99.3  | 102.7 | 102.4 | 101.3 | 141.6 |
| 10000   | 86.5  | 90.0  | 90.8  | 91.6  | 93.0  | 95.7  | 98.2  | 99.4  | 100.9 | 98.1  | 101.9 | 102.3 | 101.1 | 141.5 |
| 12500   | 83.5  | 88.5  | 89.8  | 90.0  | 91.0  | 94.0  | 95.8  | 97.3  | 100.4 | 96.4  | 100.5 | 101.0 | 100.0 | 140.9 |
| 16000   | 81.5  | 87.2  | 88.6  | 89.6  | 89.2  | 91.9  | 94.5  | 95.1  | 97.8  | 94.2  | 98.5  | 98.7  | 98.7  | 140.2 |
| 20000   | 79.4  | 83.6  | 86.5  | 86.5  | 86.5  | 90.0  | 91.3  | 91.7  | 94.7  | 91.6  | 95.8  | 96.2  | 93.8  | 139.0 |
| 25000   | 76.1  | 81.8  | 86.3  | 83.9  | 84.5  | 86.8  | 88.3  | 88.1  | 90.8  | 86.8  | 90.8  | 93.6  | 91.5  | 138.1 |
| 31500   | 72.5  | 77.9  | 83.7  | 80.7  | 80.5  | 83.6  | 83.6  | 83.9  | 87.2  | 84.0  | 86.7  | 89.2  | 87.0  | 137.3 |
| 40000   | 67.8  | 73.5  | 83.5  | 76.4  | 76.7  | 80.1  | 79.4  | 79.5  | 83.1  | 79.8  | 82.1  | 84.9  | 81.4  | 137.5 |
| 50000   | 61.6  | 67.8  | 81.9  | 70.8  | 71.0  | 74.3  | 73.7  | 73.0  | 76.8  | 73.0  | 77.5  | 80.5  | 76.6  | 137.4 |
| 63000   | 56.8  | 62.6  | 80.6  | 64.9  | 66.7  | 69.5  | 67.8  | 68.2  | 71.1  | 67.3  | 72.9  | 76.8  | 70.6  | 139.4 |
| 80000   | 50.6  | 56.5  | 77.1  | 58.1  | 60.3  | 62.9  | 61.3  | 60.2  | 64.0  | 60.0  | 67.6  | 70.3  | 62.0  | 141.5 |
| 82F SPL | 106.2 | 108.2 | 107.8 | 107.8 | 107.3 | 109.4 | 110.6 | 112.0 | 116.4 | 118.2 | 124.5 | 124.2 | 122.8 | 159.6 |
| PNL     | 120.3 | 122.3 | 121.8 | 121.6 | 121.0 | 122.4 | 123.1 | 124.8 | 129.1 | 130.0 | 135.6 | 135.1 | 133.3 |       |
| PNLT    | 121.9 | 123.7 | 121.8 | 122.7 | 121.0 | 122.4 | 123.1 | 124.8 | 129.1 | 130.0 | 135.6 | 135.1 | 133.3 |       |
| DBA     | 172.7 | 178.6 | 198.1 | 180.6 | 182.4 | 185.1 | 183.6 | 183.1 | 186.6 | 182.7 | 189.3 | 192.3 | 185.3 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH395 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 44.10 PAMB HG = 29.32 RELHUM = 71.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VB = 1685.8 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1936.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0607 TAPE = X0607F TEST PT NO = 0607 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0607 X06071

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                                          | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|
| FREQ                                                                                                                                     |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| 50                                                                                                                                       | 61.8 | 67.1 | 68.9 | 69.7 | 71.2 | 72.9 | 75.2 | 75.9 | 81.4  | 85.9  | 90.0  | 89.0  | 84.8 | 164.4 |
| 63                                                                                                                                       | 63.0 | 68.6 | 69.4 | 70.4 | 72.2 | 75.2 | 76.2 | 77.2 | 82.7  | 87.9  | 91.8  | 89.5  | 84.5 | 165.5 |
| 80                                                                                                                                       | 64.4 | 69.2 | 70.3 | 72.3 | 73.1 | 76.1 | 77.8 | 79.1 | 83.3  | 89.1  | 93.4  | 90.4  | 85.6 | 166.8 |
| 100                                                                                                                                      | 67.4 | 70.5 | 72.6 | 74.1 | 74.1 | 76.6 | 78.8 | 79.8 | 85.6  | 89.1  | 93.9  | 91.1  | 85.8 | 167.4 |
| 125                                                                                                                                      | 73.9 | 78.3 | 77.9 | 77.2 | 76.2 | 78.7 | 79.2 | 80.9 | 85.4  | 88.1  | 93.7  | 90.6  | 85.5 | 167.4 |
| 160                                                                                                                                      | 70.9 | 77.8 | 78.2 | 80.1 | 79.7 | 81.5 | 81.5 | 82.2 | 86.4  | 87.4  | 93.1  | 90.2  | 84.6 | 167.3 |
| 200                                                                                                                                      | 70.3 | 73.1 | 74.7 | 76.6 | 77.5 | 80.0 | 81.2 | 82.3 | 87.4  | 86.6  | 92.8  | 89.8  | 84.0 | 167.2 |
| 250                                                                                                                                      | 72.9 | 76.7 | 76.8 | 76.9 | 76.5 | 78.7 | 80.6 | 82.2 | 86.8  | 86.4  | 91.2  | 87.7  | 81.7 | 166.1 |
| 315                                                                                                                                      | 77.1 | 78.2 | 77.5 | 76.8 | 76.4 | 79.2 | 80.5 | 82.4 | 85.7  | 85.7  | 89.5  | 85.6  | 78.4 | 165.1 |
| 400                                                                                                                                      | 76.5 | 80.0 | 80.5 | 78.9 | 76.7 | 79.1 | 79.9 | 81.9 | 85.4  | 83.7  | 87.0  | 82.9  | 76.0 | 164.1 |
| 500                                                                                                                                      | 72.5 | 77.1 | 79.0 | 80.3 | 79.5 | 79.3 | 79.3 | 81.1 | 84.2  | 81.5  | 84.8  | 81.1  | 73.2 | 163.0 |
| 630                                                                                                                                      | 68.1 | 73.1 | 75.3 | 78.1 | 78.7 | 80.5 | 79.8 | 80.6 | 83.4  | 80.2  | 82.6  | 78.5  | 70.9 | 162.0 |
| 800                                                                                                                                      | 65.0 | 70.2 | 72.0 | 74.5 | 76.1 | 79.8 | 80.4 | 79.8 | 82.4  | 78.1  | 80.6  | 76.5  | 69.0 | 161.1 |
| 1000                                                                                                                                     | 62.6 | 68.0 | 70.2 | 71.9 | 73.6 | 77.0 | 79.1 | 79.4 | 80.9  | 76.4  | 77.5  | 73.7  | 66.3 | 159.8 |
| 1250                                                                                                                                     | 60.8 | 66.8 | 69.3 | 71.1 | 73.1 | 76.0 | 78.4 | 79.0 | 79.4  | 74.9  | 76.3  | 72.8  | 64.6 | 159.7 |
| 1600                                                                                                                                     | 57.0 | 64.7 | 67.8 | 69.2 | 70.8 | 74.0 | 75.6 | 76.5 | 78.4  | 72.7  | 74.0  | 70.1  | 61.2 | 159.0 |
| 2000                                                                                                                                     | 54.0 | 62.8 | 66.3 | 68.6 | 68.9 | 71.8 | 74.2 | 74.1 | 75.4  | 69.9  | 71.0  | 66.1  | 56.9 | 158.4 |
| 2500                                                                                                                                     | 50.1 | 58.0 | 63.3 | 64.8 | 65.6 | 69.4 | 70.5 | 70.0 | 71.5  | 66.0  | 66.5  | 60.8  | 47.0 | 157.2 |
| 3150                                                                                                                                     | 43.4 | 53.8 | 61.2 | 60.7 | 62.3 | 64.9 | 66.0 | 64.8 | 65.7  | 58.8  | 58.2  | 53.2  | 36.4 | 156.2 |
| 4000                                                                                                                                     | 33.6 | 45.2 | 54.8 | 54.2 | 55.3 | 58.8 | 58.4 | 57.4 | 58.3  | 51.2  | 47.8  | 39.9  | 17.4 | 155.5 |
| 5000                                                                                                                                     | 19.1 | 33.2 | 48.4 | 44.4 | 46.5 | 50.4 | 49.2 | 47.5 | 47.9  | 39.4  | 33.4  | 22.0  |      | 155.7 |
| 6300                                                                                                                                     |      | 13.3 | 34.7 | 28.1 | 30.7 | 34.8 | 33.4 | 30.3 | 29.6  | 18.4  | 11.1  |       |      | 155.5 |
| 8000                                                                                                                                     |      |      | 12.1 | 2.9  | 8.3  | 12.2 | 9.4  | 6.2  | 2.5   |       |       |       |      | 157.5 |
| 10000                                                                                                                                    |      |      |      |      |      |      |      |      |       |       |       |       |      | 159.6 |
| 25000                                                                                                                                    |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| 50000                                                                                                                                    |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| 63000                                                                                                                                    |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| 80000                                                                                                                                    |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| CASPL                                                                                                                                    | 83.2 | 86.9 | 87.6 | 88.4 | 88.3 | 90.5 | 91.5 | 92.6 | 96.5  | 97.6  | 102.3 | 99.4  | 94.0 | 177.3 |
| PNL                                                                                                                                      | 87.6 | 92.1 | 93.8 | 94.3 | 94.4 | 96.6 | 97.8 | 98.4 | 101.4 | 100.2 | 104.2 | 100.8 | 94.3 |       |
| PNLT                                                                                                                                     | 88.4 | 92.8 | 93.8 | 94.9 | 94.4 | 96.6 | 97.8 | 98.4 | 101.4 | 101.2 | 104.2 | 100.8 | 94.3 |       |
| DBA                                                                                                                                      | 77.0 | 81.0 | 82.4 | 83.5 | 83.9 | 86.4 | 87.4 | 88.1 | 90.5  | 88.0  | 91.5  | 87.9  | 81.3 |       |
| MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9   |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                                                              |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| VEHICL    = ADH395      TEST DATE = 11-29-82      LOCAT     = C41 ANECH CH      CONFIG    = 6      MODEL     = 6      FLTVEL    = 0. FPS |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| IAPLHA    = SB59      IEGA       = NO      PWL AREA = FULL SPHERE      TAMB F    = 44.10      PAMB HG   = 29.32      RELHUM   = 71.4 PCT |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| WIND DIR =      DEG      WIND VEL   =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT   =      NBFR     =           |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| FNIN1     =      LBS      XNL        =      RPM      XNH        =      RPM      V8        = 1685.8 FPS      AE8        = 3.4 SQ IN       |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| FNRAMB    =      LBS      XNLR      =      RPM      XNHR      =      RPM      V18      = 1936.5 FPS      AE18      = 18.0 SQ IN          |      |      |      |      |      |      |      |      |       |       |       |       |      |       |
| RUNPT = 82F-ZER-0607    TAPE        = X06071      TEST PT NO = 0607      NC        = AEG74      CORR FAN SPEED =      RPM                |      |      |      |      |      |      |      |      |       |       |       |       |      |       |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0609 X0609C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.1  | 84.4  | 80.7  | 82.2  | 80.6  | 81.2  | 84.1  | 81.2  | 87.4  | 85.7  | 84.6  | 89.8  | 89.7  | 128.6 |
| 63    | 90.8  | 92.0  | 87.1  | 88.9  | 86.7  | 89.6  | 92.5  | 84.6  | 95.1  | 93.4  | 102.5 | 95.0  | 94.4  | 135.9 |
| 80    | 87.5  | 92.1  | 87.3  | 89.1  | 88.5  | 91.1  | 92.5  | 90.1  | 92.6  | 92.2  | 95.5  | 97.0  | 98    | 134.4 |
| 100   | 86.0  | 92.0  | 88.0  | 90.3  | 90.9  | 92.3  | 93.1  | 93.8  | 94.8  | 95.3  | 97.2  | 101.4 | 102.3 | 136.9 |
| 125   | 82.9  | 86.7  | 88.9  | 91.2  | 90.6  | 91.9  | 92.1  | 91.2  | 93.4  | 95.8  | 103.1 | 104.3 | 105.7 | 139.1 |
| 160   | 82.7  | 82.5  | 87.0  | 86.3  | 86.1  | 89.2  | 91.1  | 89.3  | 93.5  | 96.1  | 103.4 | 105.9 | 109.0 | 140.4 |
| 200   | 85.0  | 85.8  | 86.1  | 88.1  | 88.5  | 90.8  | 92.0  | 93.1  | 97.1  | 98.9  | 105.5 | 108.7 | 110.1 | 142.5 |
| 250   | 84.0  | 89.3  | 89.1  | 89.4  | 89.0  | 91.3  | 94.2  | 95.6  | 98.3  | 103.6 | 109.8 | 112.5 | 112.6 | 145.9 |
| 315   | 85.1  | 89.4  | 87.9  | 89.7  | 91.3  | 93.1  | 94.5  | 96.2  | 100.9 | 104.7 | 111.8 | 113.5 | 113.7 | 147.2 |
| 400   | 85.8  | 88.8  | 90.1  | 90.7  | 90.5  | 93.1  | 95.2  | 96.2  | 102.1 | 109.2 | 114.8 | 115.5 | 114.2 | 149.4 |
| 500   | 86.6  | 90.9  | 90.4  | 91.7  | 91.8  | 94.9  | 96.0  | 97.9  | 103.4 | 110.5 | 115.8 | 115.8 | 114.2 | 150.1 |
| 630   | 88.3  | 91.6  | 91.6  | 93.1  | 93.0  | 95.8  | 97.7  | 99.6  | 104.6 | 112.4 | 117.5 | 117.0 | 114.9 | 151.5 |
| 800   | 91.8  | 92.4  | 93.9  | 94.7  | 94.5  | 96.9  | 98.8  | 100.9 | 106.9 | 112.2 | 118.6 | 117.5 | 115.9 | 152.3 |
| 1000  | 98.8  | 101.0 | 99.3  | 98.3  | 96.9  | 98.8  | 99.9  | 101.8 | 107.3 | 111.9 | 118.0 | 117.9 | 116.1 | 152.3 |
| 1250  | 95.4  | 101.2 | 101.0 | 101.6 | 101.1 | 102.5 | 101.8 | 103.3 | 108.0 | 110.5 | 117.9 | 117.8 | 115.1 | 152.2 |
| 1600  | 96.3  | 97.5  | 97.6  | 98.3  | 98.8  | 100.9 | 103.0 | 103.8 | 109.6 | 111.0 | 118.6 | 118.3 | 114.8 | 152.7 |
| 2000  | 102.5 | 102.8 | 100.0 | 98.6  | 97.7  | 99.6  | 101.8 | 104.1 | 109.2 | 111.3 | 117.8 | 115.4 | 112.4 | 151.5 |
| 2500  | 104.4 | 104.7 | 103.5 | 102.0 | 98.6  | 100.5 | 102.2 | 104.3 | 108.9 | 111.5 | 117.5 | 113.5 | 110.1 | 151.2 |
| 3150  | 102.3 | 103.6 | 104.4 | 104.4 | 102.2 | 101.5 | 102.4 | 104.4 | 108.7 | 110.1 | 116.6 | 111.7 | 108.0 | 150.5 |
| 4000  | 97.7  | 100.3 | 101.4 | 102.1 | 103.0 | 104.0 | 102.9 | 104.5 | 108.3 | 108.5 | 115.3 | 110.3 | 107.1 | 149.5 |
| 5000  | 96.0  | 98.5  | 99.1  | 99.5  | 100.8 | 103.5 | 103.9 | 104.2 | 108.2 | 108.6 | 113.6 | 109.4 | 105.6 | 148.6 |
| 6300  | 94.2  | 98.0  | 98.3  | 98.9  | 98.7  | 101.9 | 104.0 | 104.4 | 106.9 | 106.8 | 112.4 | 108.4 | 104.6 | 147.8 |
| 8000  | 92.3  | 97.4  | 97.7  | 97.6  | 97.8  | 100.3 | 102.8 | 104.4 | 106.4 | 105.3 | 110.5 | 105.9 | 103.5 | 146.8 |
| 10000 | 91.2  | 95.8  | 97.5  | 98.1  | 98.5  | 100.5 | 102.2 | 104.4 | 105.6 | 104.6 | 109.9 | 106.1 | 103.8 | 147.0 |
| 12500 | 88.7  | 94.0  | 96.0  | 96.9  | 97.7  | 99.5  | 100.5 | 101.5 | 104.6 | 102.9 | 107.8 | 104.7 | 101.7 | 146.1 |
| 16000 | 87.0  | 92.9  | 93.8  | 96.1  | 95.7  | 97.4  | 99.2  | 98.9  | 102.5 | 100.5 | 106.0 | 102.7 | 99.7  | 145.5 |
| 20000 | 84.1  | 89.1  | 91.8  | 93.0  | 93.5  | 96.5  | 96.6  | 96.0  | 99.2  | 97.1  | 103.1 | 100.2 | 96.3  | 144.5 |
| 25000 | 81.8  | 87.1  | 89.6  | 90.4  | 91.3  | 93.9  | 94.5  | 93.8  | 95.8  | 93.6  | 98.6  | 97.6  | 94.0  | 143.8 |
| 31500 | 77.5  | 83.7  | 86.2  | 87.5  | 88.0  | 90.4  | 89.9  | 89.4  | 93.2  | 91.5  | 86.2  | 94.0  | 89.2  | 143.7 |
| 40000 | 73.3  | 78.6  | 84.8  | 82.4  | 83.7  | 86.9  | 85.9  | 85.5  | 89.1  | 87.8  | 92.1  | 90.5  | 84.2  | 143.8 |
| 50000 | 66.6  | 72.8  | 82.4  | 76.8  | 77.5  | 81.4  | 80.2  | 79.3  | 83.3  | 81.3  | 87.3  | 86.1  | 78.7  | 143.0 |
| 63000 | 61.4  | 67.7  | 81.2  | 71.0  | 72.2  | 76.3  | 74.1  | 74.7  | 78.4  | 77.1  | 83.2  | 82.1  | 73.4  | 144.2 |
| 80000 | 54.9  | 60.8  | 79.1  | 64.4  | 65.9  | 69.7  | 67.6  | 67.0  | 71.8  | 70.5  | 78.7  | 77.6  | 65.3  | 146.4 |

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OASPL 110.1 111.9 111.7 111.8 111.3 113.1 114.2 115.5 119.7 122.2 128.5 127.3 125.4 163.3  
 PNL 123.9 125.4 125.6 125.7 124.9 126.4 126.8 128.2 132.4 134.4 140.6 138.2 135.6  
 PNLT 125.6 126.8 125.6 126.8 126.0 126.4 126.8 128.7 132.4 134.4 140.6 138.2 135.6  
 DBA 110.7 112.2 111.9 111.8 111.1 112.7 113.7 115.1 119.5 121.9 128.3 126.7 124.1

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-6/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH396     | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 44.10       | PAMB HG = 29.30   | RELHUM = 71.7 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1676.0 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2217.3 FPS | AE18 = 18.0 SQ IN |                   |
| RUNPT = 82F-ZER-0609 | TAPE = X0609C        | TEST PT NO = 0609      | NC = AE074           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0609 X0609F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.1  | 84.4  | 80.7  | 82.2  | 80.6  | 81.2  | 84.1  | 81.2  | 87.4  | 85.7  | 94.6  | 89.8  | 89.7  | 128.6 |
| 63    | 90.8  | 92.0  | 87.1  | 88.9  | 86.7  | 89.6  | 92.5  | 84.6  | 95.1  | 93.4  | 102.5 | 95.0  | 94.4  | 135.9 |
| 80    | 87.5  | 92.1  | 87.3  | 89.1  | 88.5  | 91.1  | 92.5  | 90.1  | 92.6  | 92.2  | 95.5  | 97.0  | 98.4  | 134.4 |
| 100   | 86.0  | 92.0  | 88.0  | 90.3  | 90.9  | 92.3  | 93.1  | 93.8  | 94.8  | 95.3  | 97.2  | 101.4 | 102.3 | 136.9 |
| 125   | 82.9  | 86.7  | 88.9  | 91.2  | 90.6  | 91.9  | 92.1  | 91.2  | 93.4  | 95.8  | 103.1 | 104.3 | 105.7 | 139.1 |
| 160   | 82.7  | 82.5  | 87.0  | 86.3  | 86.1  | 89.2  | 91.1  | 89.3  | 93.5  | 96.1  | 103.4 | 105.9 | 109.0 | 140.4 |
| 200   | 85.0  | 85.8  | 85.1  | 88.1  | 88.5  | 90.8  | 92.0  | 93.1  | 97.1  | 98.9  | 105.5 | 108.7 | 110.1 | 142.5 |
| 250   | 84.0  | 89.3  | 89.1  | 89.4  | 89.0  | 91.3  | 94.2  | 95.6  | 98.3  | 103.6 | 109.8 | 112.5 | 112.6 | 145.9 |
| 315   | 85.1  | 89.4  | 87.9  | 89.7  | 91.3  | 93.1  | 94.5  | 96.2  | 100.9 | 104.7 | 111.8 | 113.5 | 113.7 | 147.2 |
| 400   | 85.8  | 88.8  | 90.1  | 90.7  | 90.5  | 93.1  | 95.2  | 96.2  | 102.1 | 109.2 | 114.8 | 115.5 | 114.2 | 149.4 |
| 500   | 86.6  | 90.9  | 90.4  | 91.7  | 91.8  | 94.9  | 96.0  | 97.9  | 103.4 | 110.5 | 115.8 | 115.8 | 114.2 | 150.1 |
| 630   | 88.3  | 91.6  | 91.6  | 93.1  | 93.0  | 95.8  | 97.7  | 99.6  | 104.6 | 112.4 | 117.5 | 117.0 | 114.9 | 151.5 |
| 800   | 91.8  | 92.4  | 93.9  | 94.7  | 94.5  | 96.9  | 98.8  | 100.9 | 106.9 | 112.2 | 118.6 | 117.5 | 115.9 | 152.3 |
| 1000  | 98.8  | 101.0 | 99.3  | 98.3  | 96.9  | 98.8  | 99.9  | 101.6 | 107.3 | 111.9 | 118.0 | 117.9 | 116.1 | 152.3 |
| 1250  | 95.4  | 101.2 | 101.0 | 101.6 | 101.1 | 102.5 | 101.8 | 103.3 | 106.0 | 110.5 | 117.9 | 117.8 | 115.1 | 152.2 |
| 1600  | 96.3  | 97.5  | 97.6  | 98.3  | 98.8  | 100.9 | 103.0 | 103.8 | 109.6 | 111.0 | 118.6 | 118.3 | 114.8 | 152.7 |
| 2000  | 102.5 | 102.8 | 100.0 | 98.6  | 97.7  | 99.6  | 101.8 | 104.1 | 109.2 | 111.3 | 117.8 | 115.4 | 112.4 | 151.5 |
| 2500  | 104.4 | 104.7 | 103.5 | 102.0 | 98.6  | 100.5 | 102.2 | 104.3 | 108.9 | 111.5 | 117.5 | 113.5 | 110.1 | 151.2 |
| 3150  | 102.3 | 103.6 | 104.4 | 104.4 | 102.2 | 101.5 | 102.4 | 104.4 | 108.7 | 110.1 | 116.6 | 111.7 | 108.0 | 150.5 |
| 4000  | 97.7  | 100.3 | 101.4 | 102.1 | 103.0 | 104.0 | 102.9 | 104.5 | 108.3 | 108.5 | 115.3 | 110.3 | 107.1 | 149.5 |
| 5000  | 96.0  | 98.5  | 99.1  | 99.5  | 100.8 | 103.5 | 103.9 | 104.2 | 108.2 | 108.6 | 113.6 | 109.4 | 105.6 | 148.6 |
| 6300  | 94.2  | 98.0  | 98.3  | 98.9  | 98.7  | 101.9 | 104.0 | 104.4 | 106.9 | 106.8 | 112.4 | 108.4 | 104.6 | 147.8 |
| 8000  | 92.3  | 97.4  | 97.7  | 97.6  | 97.8  | 100.3 | 102.8 | 104.4 | 106.4 | 105.3 | 110.5 | 105.9 | 103.5 | 146.8 |
| 10000 | 91.2  | 95.8  | 97.5  | 98.1  | 98.5  | 100.5 | 102.2 | 104.4 | 105.6 | 104.6 | 109.9 | 106.1 | 103.8 | 147.0 |
| 12500 | 88.7  | 94.0  | 96.0  | 96.9  | 97.7  | 99.5  | 100.5 | 101.5 | 104.6 | 102.9 | 107.8 | 104.7 | 101.7 | 146.1 |
| 16000 | 87.0  | 92.9  | 93.8  | 96.1  | 95.7  | 97.4  | 99.2  | 98.9  | 102.5 | 100.5 | 106.0 | 102.7 | 99.7  | 145.5 |
| 20000 | 84.1  | 89.1  | 91.8  | 93.0  | 93.5  | 96.5  | 96.6  | 96.0  | 99.2  | 97.1  | 103.1 | 100.2 | 96.3  | 144.5 |
| 25000 | 81.8  | 87.1  | 89.6  | 90.4  | 91.3  | 93.9  | 94.5  | 93.8  | 95.8  | 93.6  | 98.6  | 97.6  | 94.0  | 143.8 |
| 31500 | 77.5  | 83.7  | 86.2  | 87.5  | 88.0  | 90.4  | 89.9  | 89.4  | 93.2  | 91.5  | 96.2  | 94.0  | 89.2  | 143.7 |
| 40000 | 73.3  | 78.6  | 84.8  | 82.4  | 83.7  | 86.9  | 85.9  | 85.5  | 89.1  | 87.8  | 92.1  | 90.5  | 84.2  | 143.8 |
| 50000 | 66.6  | 72.8  | 82.4  | 76.8  | 77.5  | 81.4  | 80.2  | 79.3  | 83.3  | 81.3  | 87.3  | 86.1  | 78.7  | 143.0 |
| 63000 | 61.4  | 67.7  | 81.2  | 71.0  | 72.2  | 76.3  | 74.1  | 74.7  | 78.4  | 77.1  | 83.2  | 82.1  | 73.4  | 144.2 |
| 80000 | 54.9  | 60.8  | 79.1  | 64.4  | 65.9  | 69.7  | 67.6  | 67.0  | 71.8  | 70.5  | 78.7  | 77.6  | 65.3  | 146.4 |
| CASPL | 110.1 | 111.9 | 111.7 | 111.8 | 111.3 | 113.1 | 114.2 | 115.5 | 119.7 | 122.2 | 128.5 | 127.3 | 125.4 | 163.3 |
| PNL   | 123.9 | 125.4 | 125.6 | 125.7 | 124.9 | 126.4 | 126.8 | 128.2 | 132.4 | 134.4 | 140.6 | 138.2 | 135.6 |       |
| PNLT  | 125.6 | 126.8 | 125.6 | 126.8 | 126.0 | 126.4 | 126.8 | 128.7 | 132.4 | 134.4 | 140.6 | 138.2 | 135.6 |       |
| DBA   | 177.1 | 183.2 | 189.8 | 186.7 | 188.1 | 191.9 | 190.0 | 189.7 | 194.0 | 192.7 | 200.1 | 199.0 | 188.2 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN, DUAL CONV/DFSC-6/NAS3-23166

|                 |                      |                        |                      |                   |                   |
|-----------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICL = ADH396 | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 44.10       | PAMB HG = 29.30   | RELHUM = 71.7 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINI =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1676.0 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2217.3 FPS | AE18 = 18.0 SQ IN |                   |

RUNPT = 82F-ZER-0609 TAPE = X0609F TEST PT NO = 0609 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0609 X06091

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 64.5 | 69.1 | 71.4 | 72.7 | 72.9 | 75.7  | 77.7  | 78.2  | 83.4  | 89.4  | 93.5  | 92.0  | 87.3 | 167.5 |
| 63    | 65.3 | 71.1 | 71.7 | 73.7 | 74.2 | 77.4  | 78.4  | 79.9  | 84.7  | 90.7  | 94.5  | 92.2  | 87.3 | 168.2 |
| 80    | 66.9 | 71.7 | 72.8 | 75.1 | 75.3 | 78.3  | 80.1  | 81.6  | 85.8  | 92.6  | 96.2  | 93.4  | 87.9 | 169.7 |
| 100   | 70.4 | 72.5 | 75.1 | 76.6 | 76.8 | 79.3  | 81.1  | 82.8  | 88.1  | 92.3  | 97.1  | 93.8  | 88.8 | 170.5 |
| 125   | 77.2 | 81.0 | 80.4 | 80.2 | 79.2 | 81.2  | 82.2  | 83.4  | 88.4  | 91.9  | 96.4  | 94.1  | 88.7 | 170.5 |
| 160   | 73.6 | 81.0 | 81.9 | 83.3 | 83.2 | 84.7  | 84.0  | 85.0  | 88.9  | 90.4  | 96.1  | 93.7  | 87.4 | 170.4 |
| 200   | 74.3 | 77.1 | 78.4 | 79.8 | 80.7 | 83.0  | 84.9  | 85.3  | 90.4  | 90.6  | 96.6  | 93.8  | 86.5 | 170.8 |
| 250   | 80.2 | 82.2 | 80.5 | 79.9 | 79.5 | 81.5  | 83.6  | 85.4  | 89.8  | 90.6  | 95.4  | 90.5  | 83.5 | 169.7 |
| 315   | 81.6 | 83.7 | 83.8 | 83.1 | 80.2 | 82.2  | 83.7  | 85.4  | 89.2  | 90.5  | 94.7  | 88.1  | 80.4 | 169.3 |
| 400   | 79.0 | 82.2 | 84.3 | 85.1 | 83.4 | 82.9  | 83.6  | 85.1  | 88.6  | 88.7  | 93.3  | 85.6  | 77.3 | 168.6 |
| 500   | 74.0 | 78.6 | 81.0 | 82.5 | 84.0 | 85.1  | 83.8  | 84.9  | 87.9  | 85.8  | 91.5  | 83.6  | 75.4 | 167.6 |
| 630   | 71.8 | 76.3 | 78.3 | 79.6 | 81.4 | 84.3  | 84.5  | 84.3  | 87.4  | 86.4  | 89.4  | 82.0  | 72.9 | 166.8 |
| 800   | 69.5 | 75.5 | 77.3 | 78.8 | 79.1 | 82.5  | 84.4  | 84.3  | 85.9  | 84.3  | 87.6  | 80.3  | 70.7 | 165.9 |
| 1000  | 67.1 | 74.5 | 76.4 | 77.3 | 78.1 | 80.8  | 83.1  | 84.1  | 85.1  | 82.4  | 85.3  | 77.1  | 68.5 | 164.9 |
| 1250  | 65.5 | 72.6 | 76.0 | 77.6 | 78.6 | 80.8  | 82.3  | 84.0  | 84.1  | 81.4  | 84.3  | 76.5  | 67.4 | 165.1 |
| 1600  | 62.2 | 70.2 | 74.1 | 76.1 | 77.6 | 79.5  | 80.4  | 80.7  | 82.7  | 79.2  | 81.2  | 73.8  | 62.9 | 164.2 |
| 2000  | 59.5 | 68.6 | 71.5 | 75.1 | 75.4 | 77.3  | 78.9  | 77.8  | 80.2  | 76.1  | 78.5  | 70.1  | 57.8 | 163.6 |
| 2500  | 54.8 | 63.5 | 68.6 | 71.3 | 72.6 | 75.9  | 75.7  | 74.3  | 76.0  | 71.5  | 73.8  | 64.8  | 49.5 | 162.6 |
| 3150  | 49.2 | 59.0 | 64.5 | 67.2 | 69.0 | 71.9  | 72.3  | 70.6  | 70.7  | 65.5  | 65.9  | 57.2  | 38.9 | 161.9 |
| 4000  | 38.6 | 51.0 | 57.3 | 60.9 | 62.8 | 65.6  | 64.6  | 62.9  | 64.3  | 58.7  | 57.3  | 44.7  | 19.6 | 161.8 |
| 5000  | 24.6 | 38.2 | 49.7 | 50.4 | 53.5 | 57.2  | 55.7  | 53.5  | 54.0  | 47.5  | 43.5  | 27.5  |      | 161.9 |
| 6300  | 0.2  | 18.3 | 35.2 | 34.1 | 37.2 | 41.8  | 39.9  | 36.6  | 36.1  | 26.7  | 20.8  |       |      | 161.1 |
| 8000  |      |      | 12.6 | 9.0  | 13.8 | 19.0  | 15.6  | 12.7  | 9.8   |       |       |       |      | 162.4 |
| 10000 |      |      |      |      |      |       |       |       |       |       |       |       |      | 164.6 |
| 12500 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
| GASPL | 87.1 | 90.6 | 91.5 | 92.3 | 92.3 | 94.1  | 95.0  | 96.0  | 99.6  | 101.5 | 106.0 | 102.5 | 96.7 | 181.1 |
| PNL   | 91.6 | 95.8 | 97.9 | 99.1 | 99.1 | 101.2 | 102.1 | 102.3 | 105.0 | 105.1 | 109.0 | 104.3 | 96.7 |       |
| PNLT  | 92.8 | 96.5 | 97.9 | 99.7 | 99.6 | 101.2 | 102.1 | 102.3 | 105.0 | 106.1 | 109.0 | 104.3 | 96.7 |       |
| DBA   | 80.8 | 84.9 | 86.8 | 88.0 | 88.5 | 90.6  | 91.6  | 92.2  | 94.4  | 93.3  | 97.2  | 91.1  | 83.5 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH396      TEST DATE = 11-29-82      LOCAT = C41 ANECH CH      CONFIG = 6      MODEL = 6      FLTVEL = 0. FPS  
IAPLHA = SB59      IEGA = NO      PWL AREA = FULL SPHERE      TAMB F = 44.10      PAMB HG = 29.30      RELHUM = 71.7 PCT  
WIND DIR =      DEG      WIND VEL =      MPH      EXT DIST = 2400.0 FT      EXT CONFIG = SL      MIKE HT =      NBFR =

FNIN1 =      LBS      XNL =      RPM      XNH =      RPM      V8 = 1676.0 FPS      AE8 = 3.4 SQ IN  
FNRAMB =      LBS      XNLR =      RPM      XNHR =      RPM      V18 = 2217.3 FPS      AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0609      TAPE = X06091      TEST PT NO = 0609      NC = AE074      CORR FAN SPEED =      RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0610 X0610C  
BACKGROUND 82F-400-D100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.  | 70.   | 80.  | 90.   | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4 | 83.8  | 77.7 | 81.9  | 81.2 | 80.2  | 80.6 | 81.3  | 84.4  | 87.0  | 90.1  | 90.5  | 96.7  | 128.5 |
| 63    |      |       |      | 88.3  | 86.5 | 86.8  | 89.3 |       | 88.7  | 92.9  | 94.2  | 93.7  | 96.6  | 131.5 |
| 80    | 87.4 | 90.9  | 84.9 | 87.3  | 86.6 | 89.3  | 89.4 | 88.4  | 91.1  | 91.1  | 92.4  | 94.8  | 99.8  | 133.0 |
| 100   | 84.8 | 89.6  | 84.7 | 87.0  | 87.7 | 88.9  | 89.7 | 90.9  | 91.9  | 93.4  | 94.6  | 99.1  | 102.6 | 135.0 |
| 125   | 83.0 | 84.8  | 85.5 | 87.8  | 88.0 | 89.4  | 89.7 | 89.1  | 90.1  | 93.6  | 99.1  | 101.6 | 104.4 | 136.5 |
| 160   | 79.5 | 78.8  | 83.5 | 83.5  | 83.1 | 85.0  |      | 85.0  | 89.7  | 94.0  | 99.7  | 102.9 | 106.0 | 137.2 |
| 200   |      | 82.1  | 81.0 | 83.0  | 83.6 | 86.1  | 87.7 | 89.0  | 93.5  | 96.1  | 100.5 | 105.0 | 106.8 | 138.6 |
| 250   | 80.3 |       | 82.4 | 83.9  | 84.8 | 86.7  | 88.1 | 90.3  | 93.6  | 100.1 | 105.0 | 107.7 | 108.1 | 141.2 |
| 315   |      | 84.0  | 82.1 | 85.1  | 85.6 | 88.3  | 89.6 | 90.9  | 95.9  | 101.9 | 107.1 | 109.3 | 108.4 | 142.7 |
| 400   | 82.4 | 83.7  | 84.3 | 85.3  | 85.6 | 88.0  |      | 91.3  | 97.4  | 105.4 | 109.8 | 110.3 | 107.2 | 144.2 |
| 500   | 83.3 | 85.8  | 85.1 | 86.9  | 87.7 | 90.1  | 91.3 | 93.1  | 98.9  | 107.5 | 111.4 | 110.5 | 103.9 | 145.1 |
| 630   | 84.0 | 86.3  | 86.6 | 88.1  | 88.2 | 90.8  | 93.2 | 94.9  | 100.8 | 109.7 | 113.1 | 110.5 | 100.1 | 146.4 |
| 800   | 86.3 | 86.4  | 87.9 | 88.7  | 89.0 | 92.1  | 94.5 | 96.4  | 102.9 | 109.7 | 112.8 | 108.3 | 97.6  | 146.1 |
| 1000  | 88.7 | 88.5  | 88.3 | 89.8  | 90.2 | 93.3  | 94.7 | 97.1  | 103.1 | 109.6 | 111.8 | 105.7 | 95.8  | 145.4 |
| 1250  | 87.9 | 91.4  | 90.0 | 90.8  | 91.1 | 93.7  | 95.6 | 98.3  | 104.5 | 108.8 | 110.9 | 102.6 | 94.1  | 144.8 |
| 1600  | 92.6 | 91.5  | 90.1 | 91.5  | 92.0 | 94.6  | 97.0 | 98.8  | 106.1 | 108.7 | 110.1 | 101.5 | 93.4  | 144.7 |
| 2000  | 98.5 | 98.6  | 93.5 | 92.6  | 92.2 | 94.6  | 96.8 | 100.4 | 105.2 | 108.5 | 108.8 | 99.3  | 93.3  | 144.3 |
| 2500  | 99.6 | 101.4 | 99.0 | 98.5  | 93.9 | 96.0  | 97.4 | 100.8 | 104.7 | 108.7 | 108.0 | 98.5  | 93.0  | 144.6 |
| 3150  | 96.0 | 98.5  | 98.1 | 100.1 | 99.4 | 98.0  | 97.6 | 100.3 | 104.9 | 107.0 | 106.5 | 97.9  | 92.2  | 143.9 |
| 4000  | 92.2 | 93.5  | 93.1 | 97.3  | 98.4 | 100.4 | 98.5 | 100.6 | 104.7 | 106.2 | 106.4 | 98.0  | 92.5  | 143.5 |
| 5000  | 92.7 | 93.3  | 90.4 | 94.1  | 94.6 | 99.3  | 99.7 | 100.3 | 104.5 | 106.1 | 105.2 | 98.0  | 92.5  | 143.1 |
| 6300  | 93.0 | 94.0  | 90.6 | 93.9  | 93.5 | 96.7  | 99.3 | 100.9 | 103.7 | 105.1 | 104.6 | 97.7  | 91.9  | 142.6 |
| 8000  | 93.0 | 94.3  | 89.6 | 93.3  | 93.2 | 95.3  | 98.0 | 100.6 | 103.8 | 103.9 | 102.9 | 96.4  | 90.7  | 142.2 |
| 10000 | 91.3 | 93.5  | 90.1 | 94.4  | 94.5 | 96.3  | 97.5 | 99.8  | 102.7 | 102.0 | 101.0 | 95.9  | 90.4  | 141.8 |
| 12500 | 89.8 | 91.4  | 89.0 | 93.9  | 93.7 | 95.0  | 95.5 | 97.5  | 101.6 | 100.0 | 99.5  | 94.7  | 89.7  | 141.1 |
| 16000 | 89.3 | 91.4  | 87.0 | 93.1  | 92.7 | 93.6  | 95.0 | 95.6  | 98.9  | 97.6  | 96.7  | 93.5  | 88.0  | 140.5 |
| 20000 | 85.6 | 88.1  | 85.2 | 90.7  | 90.2 | 92.7  | 93.1 | 92.9  | 96.1  | 94.5  | 94.5  | 90.7  | 85.3  | 139.8 |
| 25000 | 82.6 | 85.9  | 82.9 | 87.9  | 88.3 | 90.6  | 91.5 | 90.6  | 93.6  | 90.9  | 90.6  | 88.6  | 83.8  | 139.7 |
| 31500 | 78.7 | 82.1  | 79.7 | 84.5  | 85.0 | 87.6  | 87.8 | 88.0  | 90.9  | 88.3  | 86.8  | 85.4  | 80.7  | 139.7 |
| 40000 | 74.6 | 77.8  | 78.3 | 80.4  | 81.4 | 84.3  | 83.9 | 83.8  | 87.9  | 85.0  | 83.3  | 82.1  | 75.7  | 140.2 |
| 50000 | 68.7 | 72.4  | 78.5 | 75.8  | 76.0 | 79.5  | 78.5 | 78.5  | 82.7  | 79.0  | 78.5  | 77.7  | 70.1  | 139.7 |
| 63000 | 63.7 | 67.4  | 78.6 | 70.4  | 72.1 | 75.1  | 73.5 | 74.4  | 77.4  | 74.4  | 73.5  | 72.8  | 64.1  | 141.0 |
| 80000 | 57.4 | 60.6  | 78.2 | 63.4  | 65.4 | 69.0  | 67.3 | 67.0  | 70.0  | 68.5  | 66.5  | 66.5  | 56.2  | 143.6 |

CASPL 105.7 107.2 104.9 107.0 106.6 108.5 109.4 111.4 116.0 119.7 121.7 118.7 116.1 157.6  
PNL 119.2 121.0 118.9 121.0 120.5 122.2 121.9 124.2 128.7 131.9 132.5 127.2 123.3  
PNLT 125.9 122.8 120.0 121.0 121.6 122.2 128.6 124.2 128.7 131.9 132.5 127.2 123.3  
DBA 106.0 107.3 105.1 106.7 106.1 107.9 108.8 111.1 115.8 119.4 120.8 115.8 109.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH416 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.30 PAMB HG = 29.46 RELHUM = 66.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1694.4 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2183.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0610 TAPE = X0610C TEST PT NO = 0610 NC = AE075 CORR FAN SPEED = RPM

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0610 X0610F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.5  | 89.2  | 87.0  | 87.1  | 86.3  | 86.7  | 86.2  | 86.7  | 92.4  | 97.6  | 102.2 | 104.8 | 105.8 | 138.6 |
| 315   | 87.5  | 89.2  | 87.0  | 87.1  | 87.4  | 88.5  | 88.2  | 88.1  | 94.8  | 101.9 | 105.9 | 107.1 | 106.5 | 141.2 |
| 400   | 89.0  | 90.4  | 87.0  | 88.5  | 87.4  | 88.3  | 89.6  | 89.2  | 97.2  | 105.4 | 109.4 | 110.0 | 106.9 | 144.0 |
| 500   | 89.5  | 89.7  | 89.0  | 88.6  | 89.6  | 88.4  | 89.5  | 91.4  | 98.8  | 107.3 | 110.9 | 110.5 | 105.0 | 145.0 |
| 630   | 91.0  | 92.3  | 90.1  | 90.3  | 90.1  | 91.2  | 92.2  | 92.7  | 101.2 | 107.7 | 111.3 | 109.6 | 105.2 | 145.2 |
| 800   | 91.7  | 92.7  | 91.6  | 91.6  | 91.0  | 92.6  | 93.6  | 94.3  | 101.8 | 108.2 | 111.0 | 108.4 | 106.0 | 145.1 |
| 1000  | 94.0  | 92.8  | 92.9  | 92.2  | 92.2  | 93.9  | 93.9  | 95.1  | 103.2 | 107.2 | 109.9 | 104.9 | 103.9 | 144.1 |
| 1250  | 95.4  | 94.3  | 93.0  | 93.2  | 93.2  | 94.5  | 94.9  | 96.3  | 105.0 | 107.3 | 109.2 | 103.9 | 103.3 | 144.1 |
| 1600  | 94.4  | 97.2  | 94.6  | 94.3  | 94.0  | 95.6  | 96.5  | 97.0  | 104.4 | 107.4 | 108.2 | 102.0 | 103.4 | 143.8 |
| 2000  | 97.6  | 95.9  | 93.8  | 94.4  | 94.4  | 95.8  | 96.6  | 98.8  | 104.2 | 107.9 | 107.7 | 101.5 | 103.5 | 143.9 |
| 2500  | 105.8 | 104.7 | 98.3  | 96.1  | 96.3  | 97.6  | 97.6  | 99.6  | 105.0 | 106.8 | 106.9 | 101.7 | 103.5 | 144.9 |
| 3150  | 106.5 | 107.3 | 103.6 | 101.9 | 102.5 | 100.0 | 98.2  | 99.6  | 105.6 | 106.7 | 107.4 | 102.3 | 104.3 | 146.4 |
| 4000  | 102.4 | 104.4 | 103.1 | 104.1 | 102.7 | 103.0 | 99.7  | 100.6 | 105.6 | 106.8 | 106.4 | 102.6 | 104.6 | 146.2 |
| 5000  | 102.5 | 102.5 | 100.5 | 103.1 | 99.2  | 102.3 | 101.3 | 100.5 | 104.9 | 105.9 | 106.0 | 102.4 | 104.2 | 145.5 |
| 6300  | 102.9 | 102.3 | 93.0  | 100.1 | 97.5  | 99.7  | 100.9 | 101.2 | 105.2 | 104.9 | 104.5 | 101.4 | 103.3 | 144.8 |
| 8000  | 100.3 | 100.6 | 96.3  | 98.6  | 97.1  | 98.3  | 99.8  | 101.0 | 104.9 | 104.0 | 103.6 | 102.0 | 104.0 | 144.4 |
| 10000 | 98.8  | 99.8  | 94.5  | 97.5  | 98.6  | 99.3  | 99.7  | 100.7 | 104.4 | 102.6 | 102.7 | 101.4 | 103.7 | 144.4 |
| 12500 | 98.2  | 99.7  | 95.3  | 98.7  | 97.8  | 98.0  | 97.8  | 98.6  | 102.8 | 101.3 | 101.1 | 101.1 | 102.7 | 144.1 |
| 16000 | 96.1  | 97.0  | 93.7  | 97.6  | 96.7  | 96.6  | 97.4  | 97.2  | 100.6 | 98.9  | 99.5  | 98.9  | 100.6 | 143.7 |
| 20000 | 95.2  | 96.6  | 91.3  | 96.4  | 94.3  | 95.7  | 95.5  | 94.6  | 98.2  | 95.0  | 94.9  | 95.6  | 97.6  | 143.2 |
| 25000 | 90.9  | 92.7  | 88.9  | 93.4  | 92.3  | 93.6  | 93.6  | 91.8  | 96.6  | 93.6  | 92.2  | 93.6  | 95.6  | 143.2 |
| 31500 | 87.1  | 89.7  | 85.8  | 89.9  | 89.6  | 90.6  | 90.0  | 89.5  | 94.8  | 91.7  | 90.7  | 92.6  | 93.3  | 143.9 |
| 40000 | 85.2  | 87.4  | 83.5  | 86.7  | 86.0  | 87.3  | 86.3  | 85.6  | 89.9  | 86.1  | 86.2  | 88.6  | 88.1  | 143.9 |
| 50000 | 80.7  | 82.7  | 81.7  | 82.3  | 80.6  | 82.5  | 80.9  | 80.3  | 85.4  | 82.3  | 82.0  | 84.7  | 83.2  | 143.9 |
| 63000 | 73.8  | 76.3  | 80.9  | 76.7  | 76.2  | 78.1  | 75.9  | 76.0  | 79.3  | 77.6  | 76.4  | 79.8  | 76.8  | 144.4 |
| 80000 | 64.6  | 67.5  | 77.8  | 68.7  | 69.5  | 72.0  | 69.6  | 68.6  | 69.5  | 67.8  | 66.6  | 70.0  | 67.0  | 144.6 |
| 8ASPL | 112.8 | 113.2 | 109.9 | 110.9 | 109.9 | 110.6 | 110.3 | 111.0 | 116.3 | 118.7 | 120.5 | 118.3 | 117.4 | 158.5 |
| PNL   | 126.3 | 126.8 | 123.5 | 124.0 | 122.9 | 123.6 | 122.4 | 123.0 | 128.4 | 130.5 | 131.5 | 127.8 | 128.6 |       |
| PNLT  | 127.5 | 128.8 | 124.7 | 124.0 | 122.9 | 123.6 | 122.4 | 123.0 | 128.4 | 130.5 | 131.5 | 127.8 | 128.6 |       |
| DBA   | 188.3 | 190.9 | 198.7 | 191.5 | 191.7 | 193.9 | 191.7 | 191.1 | 193.5 | 191.5 | 190.5 | 193.7 | 191.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                 |                      |                        |                          |                 |                   |
|-----------------|----------------------|------------------------|--------------------------|-----------------|-------------------|
| VEHICL = ADH416 | TEST DATE = 11-30-82 | LOCAT = C41 ANECH CH   | CONFIG = 6               | MODEL = 6       | FLTVEL = 400. FPS |
| IAPLHA = SB59   | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 62.30           | PAMB HG = 29.46 | RELHUM = 66.1 PCT |
| WIND DIR =      | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT EXT CONFIG = ARC | MIKE HT =       | NBFR =            |
| FNIN1 =         | LBS XNL =            | RPM XNH =              | RPM V8 = 1694.4 FPS      | AE8 =           | 3.4 SQ IN         |
| FNRAMB =        | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2183.9 FPS     | AE18 =          | 18.0 SQ IN        |

RUNPT = 82F-400-0610 TYPE = X0610F TEST PT NO = 0610 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0610 X06101

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|------|------|-------|
| FREQ  |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 50    | 67.7 | 70.6 | 68.3 | 70.5 | 69.8 | 70.8 | 72.0 | 71.2 | 78.5  | 85.7  | 88.1  | 86.5 | 80.1 | 162.1 |
| 63    | 68.1 | 70.0 | 70.3 | 70.6 | 72.0 | 73.0 | 72.9 | 73.4 | 80.1  | 87.5  | 89.6  | 87.0 | 78.1 | 163.1 |
| 80    | 69.6 | 72.4 | 71.3 | 72.3 | 72.5 | 73.7 | 74.6 | 74.6 | 82.5  | 87.9  | 89.9  | 86.0 | 78.2 | 163.3 |
| 100   | 70.2 | 72.8 | 72.8 | 73.5 | 73.4 | 75.1 | 75.9 | 76.2 | 83.0  | 88.3  | 89.5  | 84.7 | 78.8 | 163.2 |
| 125   | 72.4 | 72.8 | 74.0 | 74.1 | 74.5 | 76.3 | 76.2 | 76.9 | 84.3  | 87.2  | 88.3  | 81.1 | 76.6 | 162.2 |
| 160   | 73.7 | 74.2 | 73.9 | 74.9 | 75.4 | 76.8 | 77.1 | 78.0 | 86.0  | 87.1  | 87.4  | 79.8 | 75.5 | 162.2 |
| 200   | 72.4 | 76.8 | 75.4 | 75.8 | 75.9 | 77.8 | 78.5 | 78.5 | 85.2  | 87.0  | 86.1  | 77.6 | 75.2 | 161.9 |
| 250   | 75.3 | 75.3 | 74.4 | 75.7 | 76.2 | 77.8 | 78.4 | 80.2 | 84.8  | 87.3  | 85.4  | 76.7 | 74.6 | 162.0 |
| 315   | 83.0 | 83.7 | 78.6 | 77.1 | 77.8 | 79.3 | 79.1 | 80.7 | 85.3  | 85.9  | 84.2  | 76.3 | 73.8 | 163.1 |
| 400   | 83.3 | 85.9 | 83.5 | 82.6 | 83.7 | 81.4 | 79.4 | 80.4 | 85.5  | 85.3  | 84.2  | 76.2 | 73.6 | 164.6 |
| 500   | 78.6 | 82.6 | 82.6 | 84.6 | 83.6 | 84.1 | 80.7 | 81.0 | 85.1  | 85.1  | 82.7  | 75.9 | 72.9 | 164.3 |
| 630   | 78.2 | 80.3 | 79.8 | 83.2 | 79.9 | 83.2 | 82.0 | 80.6 | 84.1  | 83.7  | 81.8  | 75.0 | 71.5 | 163.6 |
| 800   | 78.2 | 79.8 | 76.9 | 79.9 | 78.0 | 80.3 | 81.3 | 81.1 | 84.2  | 82.4  | 79.8  | 73.3 | 69.5 | 162.9 |
| 1000  | 75.1 | 77.8 | 75.0 | 78.3 | 77.3 | 78.7 | 80.1 | 80.7 | 83.6  | 81.2  | 78.5  | 73.3 | 69.0 | 162.5 |
| 1250  | 73.2 | 76.6 | 73.0 | 77.0 | 78.7 | 79.6 | 79.9 | 80.2 | 82.9  | 79.5  | 77.1  | 71.8 | 67.3 | 162.5 |
| 1600  | 71.6 | 75.9 | 73.3 | 77.9 | 77.6 | 78.0 | 77.6 | 77.8 | 80.9  | 77.6  | 74.5  | 70.2 | 63.9 | 162.3 |
| 2000  | 68.6 | 72.6 | 71.4 | 76.6 | 76.4 | 76.6 | 77.0 | 76.1 | 78.3  | 74.5  | 72.0  | 66.3 | 58.7 | 161.9 |
| 2500  | 65.9 | 71.0 | 68.1 | 74.7 | 73.4 | 75.1 | 74.6 | 72.9 | 75.0  | 69.4  | 65.6  | 60.2 | 50.9 | 161.4 |
| 3150  | 58.3 | 64.6 | 63.8 | 70.2 | 70.1 | 71.7 | 71.3 | 68.6 | 71.5  | 65.5  | 69.5  | 53.2 | 40.5 | 161.4 |
| 4000  | 48.2 | 56.9 | 56.9 | 63.3 | 64.4 | 65.8 | 64.8 | 62.9 | 65.9  | 59.0  | 51.8  | 43.3 | 23.6 | 162.0 |
| 5000  | 36.5 | 47.0 | 48.3 | 54.8 | 55.8 | 57.6 | 56.1 | 53.6 | 54.8  | 45.8  | 37.5  | 25.6 |      | 162.1 |
| 6300  | 14.2 | 28.2 | 34.5 | 39.5 | 40.3 | 43.0 | 40.6 | 37.5 | 38.2  | 27.8  | 15.6  |      |      | 162.0 |
| 8000  |      |      | 12.4 | 14.7 | 17.7 | 20.8 | 17.5 | 14.0 | 10.8  |       |       |      |      | 162.6 |
| 10000 |      |      |      |      |      |      |      |      |       |       |       |      |      | 162.7 |
| 12500 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| ASPL  | 89.2 | 91.4 | 89.5 | 91.1 | 90.6 | 91.5 | 91.0 | 91.3 | 96.1  | 97.8  | 98.1  | 93.4 | 87.5 | 176.5 |
| PNL   | 95.4 | 98.4 | 96.4 | 98.7 | 98.4 | 99.5 | 99.2 | 98.8 | 102.6 | 101.9 | 100.5 | 94.3 | 89.2 |       |
| PNLT  | 96.6 | 99.4 | 97.0 | 99.3 | 98.9 | 99.5 | 99.2 | 98.8 | 103.2 | 101.9 | 100.5 | 94.3 | 89.2 |       |
| DBA   | 85.4 | 88.0 | 86.0 | 88.8 | 88.1 | 89.1 | 88.8 | 88.7 | 92.0  | 90.7  | 88.7  | 82.2 | 78.3 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH416 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAP' = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.30 PAMB HG = 29.46 RELHUM = 66.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1694.4 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2183.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0610 TAPE = X06101 TEST PT NO = 0610 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0611 X0611C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.6  | 84.7  | 81.4  | 83.0  | 81.3  | 81.9  | 82.8  | 82.0  | 87.2  | 85.5  | 95.1  | 96.1  | 91.0  | 130.1 |
| 63    | 89.5  | 92.0  | 86.6  | 88.9  | 87.5  | 89.3  | 90.5  | 87.9  | 94.3  | 93.1  | 103.3 | 103.7 | 96.4  | 137.6 |
| 80    | 87.8  | 92.8  | 87.6  | 89.4  | 88.7  | 91.6  | 92.5  | 90.1  | 92.8  | 92.9  | 95.8  | 97.2  | 98.4  | 134.6 |
| 100   | 86.7  | 93.0  | 88.5  | 90.8  | 91.9  | 92.8  | 93.9  | 94.8  | 95.8  | 96.6  | 98.2  | 101.9 | 103.1 | 137.7 |
| 125   | 84.6  | 87.7  | 90.4  | 92.2  | 91.8  | 92.9  | 93.6  | 92.2  | 94.7  | 97.0  | 104.6 | 106.1 | 107.2 | 140.6 |
| 160   | 83.7  | 84.2  | 87.5  | 87.0  | 86.9  | 89.5  | 91.9  | 90.5  | 94.2  | 97.6  | 104.4 | 106.9 | 109.8 | 141.3 |
| 200   | 86.5  | 87.1  | 86.8  | 88.9  | 89.2  | 91.8  | 93.2  | 94.1  | 98.8  | 100.4 | 106.8 | 109.7 | 111.4 | 143.6 |
| 250   | 85.0  | 89.8  | 89.8  | 89.9  | 90.0  | 92.1  | 95.5  | 96.9  | 99.6  | 105.1 | 111.8 | 113.7 | 113.9 | 147.3 |
| 315   | 86.6  | 89.4  | 88.1  | 90.2  | 92.0  | 94.9  | 96.0  | 96.7  | 101.9 | 106.0 | 113.1 | 114.8 | 114.9 | 148.5 |
| 400   | 87.3  | 89.6  | 90.4  | 91.4  | 91.7  | 94.1  | 96.2  | 97.7  | 103.6 | 109.9 | 115.8 | 116.5 | 115.4 | 150.4 |
| 500   | 88.6  | 91.9  | 91.1  | 92.7  | 93.3  | 95.6  | 97.3  | 99.2  | 104.8 | 111.5 | 117.3 | 117.5 | 115.4 | 151.5 |
| 630   | 89.5  | 93.1  | 93.1  | 94.1  | 94.0  | 97.1  | 99.0  | 100.4 | 106.1 | 113.4 | 118.8 | 118.0 | 115.9 | 152.6 |
| 800   | 93.6  | 93.6  | 94.4  | 94.9  | 95.3  | 97.6  | 99.8  | 101.7 | 108.4 | 113.2 | 119.8 | 119.3 | 116.7 | 153.6 |
| 1000  | 99.0  | 100.5 | 99.1  | 98.8  | 97.2  | 99.3  | 100.7 | 102.1 | 108.6 | 112.6 | 119.3 | 119.4 | 116.6 | 153.5 |
| 1250  | 96.9  | 101.9 | 101.0 | 101.6 | 100.3 | 102.7 | 102.6 | 103.5 | 110.0 | 112.5 | 119.7 | 118.8 | 115.4 | 153.5 |
| 1600  | 97.8  | 98.2  | 98.1  | 99.0  | 99.5  | 101.6 | 103.5 | 105.0 | 111.4 | 112.5 | 120.6 | 119.0 | 114.0 | 154.0 |
| 2000  | 102.0 | 102.1 | 99.7  | 99.1  | 98.7  | 100.3 | 102.8 | 105.6 | 110.7 | 112.5 | 119.8 | 116.1 | 111.6 | 152.9 |
| 2500  | 101.4 | 102.0 | 101.8 | 101.3 | 99.6  | 101.5 | 103.2 | 105.6 | 110.7 | 113.2 | 118.7 | 114.0 | 108.8 | 152.2 |
| 3150  | 99.0  | 101.6 | 101.4 | 101.6 | 101.0 | 102.0 | 103.4 | 105.1 | 110.2 | 112.1 | 117.1 | 112.5 | 107.7 | 151.0 |
| 4000  | 96.2  | 98.6  | 99.2  | 99.8  | 100.8 | 103.0 | 102.6 | 105.7 | 109.8 | 110.8 | 115.8 | 111.3 | 106.8 | 150.1 |
| 5000  | 94.5  | 97.2  | 97.3  | 99.0  | 98.5  | 102.0 | 103.6 | 105.2 | 109.2 | 110.5 | 113.9 | 109.1 | 106.1 | 149.1 |
| 6300  | 92.4  | 96.0  | 97.1  | 97.7  | 98.0  | 100.9 | 103.2 | 104.9 | 108.2 | 108.6 | 112.3 | 108.3 | 105.1 | 148.1 |
| 8000  | 91.0  | 95.4  | 96.2  | 96.4  | 97.0  | 99.6  | 102.0 | 104.1 | 107.4 | 107.7 | 111.2 | 106.4 | 104.3 | 147.4 |
| 10000 | 90.7  | 94.5  | 96.3  | 97.1  | 97.7  | 99.9  | 102.2 | 103.4 | 106.6 | 106.3 | 109.7 | 106.3 | 103.1 | 147.1 |
| 12500 | 88.7  | 94.0  | 95.5  | 96.2  | 96.2  | 99.2  | 100.3 | 101.7 | 105.4 | 104.4 | 108.5 | 104.7 | 101.7 | 146.5 |
| 16000 | 87.2  | 92.9  | 94.3  | 95.6  | 95.2  | 97.4  | 99.0  | 99.4  | 103.2 | 102.0 | 106.0 | 102.7 | 99.2  | 145.7 |
| 20000 | 84.6  | 90.2  | 92.0  | 94.0  | 93.5  | 95.8  | 96.9  | 96.8  | 100.4 | 98.9  | 103.8 | 101.2 | 95.8  | 145.2 |
| 25000 | 82.4  | 87.6  | 90.2  | 91.2  | 91.6  | 93.7  | 94.6  | 93.6  | 97.2  | 95.4  | 98.9  | 98.4  | 92.6  | 144.3 |
| 31500 | 78.6  | 83.8  | 87.1  | 87.8  | 87.9  | 91.0  | 90.5  | 90.0  | 93.4  | 92.6  | 96.3  | 95.1  | 89.1  | 144.2 |
| 40000 | 74.2  | 80.0  | 85.0  | 82.8  | 83.9  | 87.3  | 86.6  | 86.1  | 89.5  | 89.2  | 92.1  | 92.1  | 84.1  | 144.4 |
| 50000 | 68.1  | 74.3  | 82.9  | 77.3  | 78.0  | 81.8  | 81.2  | 80.5  | 84.5  | 83.3  | 88.5  | 87.0  | 78.6  | 144.0 |
| 63000 | 62.8  | 68.7  | 81.4  | 72.2  | 73.5  | 77.0  | 75.6  | 75.4  | 78.9  | 79.1  | 83.5  | 83.8  | 72.8  | 145.0 |
| 80000 | 55.6  | 61.9  | 79.4  | 65.2  | 67.1  | 70.5  | 68.4  | 69.0  | 72.4  | 73.9  | 78.7  | 78.1  | 65.1  | 147.0 |

GASPL 108.9 111.0 110.6 111.1 110.8 113.1 114.5 116.2 121.1 123.7 129.7 128.4 126.0 164.3

PNL 122.2 124.1 123.8 124.3 124.0 126.1 127.3 129.1 133.8 136.1 141.7 139.1 135.6

PNLT 123.5 125.9 123.8 124.8 124.0 126.1 127.3 129.7 133.8 136.1 142.2 139.1 135.6

DBA 109.4 111.0 110.6 110.8 110.4 112.6 114.0 116.0 121.0 123.4 129.6 127.7 124.4

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH397 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 44.90 PAMB HG = 29.26 RELHUM = 71.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1678.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2279.8 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0611 TAPE = X0611C TEST PT NO = 0611 NC = AE074 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0611 X0611F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.6  | 84.7  | 81.4  | 83.0  | 81.3  | 81.9  | 82.8  | 82.0  | 87.2  | 85.5  | 95.1  | 96.1  | 91.0  | 130.1 |
| 63    | 89.5  | 92.0  | 86.6  | 88.9  | 87.5  | 89.3  | 90.5  | 84.9  | 94.3  | 93.1  | 103.3 | 103.7 | 96.4  | 137.6 |
| 80    | 87.8  | 92.8  | 87.6  | 89.4  | 88.7  | 91.6  | 92.5  | 90.1  | 92.8  | 92.9  | 95.8  | 97.2  | 98.4  | 134.6 |
| 100   | 86.7  | 93.0  | 88.5  | 90.8  | 91.9  | 92.8  | 93.9  | 94.8  | 95.8  | 96.6  | 98.2  | 101.9 | 103.1 | 137.7 |
| 125   | 84.6  | 87.7  | 90.4  | 92.2  | 91.8  | 92.9  | 93.6  | 92.2  | 94.7  | 97.0  | 104.6 | 106.1 | 107.2 | 140.6 |
| 160   | 83.7  | 84.2  | 87.5  | 87.0  | 86.9  | 89.5  | 91.9  | 90.5  | 94.2  | 97.6  | 104.4 | 106.9 | 109.8 | 141.3 |
| 200   | 86.5  | 87.1  | 86.8  | 88.9  | 89.2  | 91.8  | 93.2  | 94.1  | 98.8  | 100.4 | 106.8 | 109.7 | 111.4 | 143.6 |
| 250   | 85.0  | 89.8  | 89.8  | 89.9  | 90.0  | 92.1  | 95.5  | 96.9  | 99.6  | 105.1 | 111.8 | 113.7 | 113.9 | 147.3 |
| 315   | 86.6  | 89.4  | 88.1  | 90.2  | 92.0  | 94.9  | 96.0  | 96.7  | 101.9 | 106.0 | 113.1 | 114.8 | 114.9 | 148.5 |
| 400   | 87.3  | 89.6  | 90.4  | 91.4  | 91.7  | 94.1  | 96.2  | 97.7  | 103.6 | 109.9 | 115.8 | 116.5 | 115.4 | 150.4 |
| 500   | 88.6  | 91.9  | 91.1  | 92.7  | 93.3  | 95.6  | 97.3  | 99.2  | 104.9 | 111.5 | 117.3 | 117.5 | 115.4 | 151.5 |
| 630   | 89.6  | 93.1  | 93.1  | 94.1  | 94.0  | 97.1  | 99.0  | 100.4 | 106.1 | 113.4 | 118.8 | 118.0 | 115.9 | 152.6 |
| 800   | 93.5  | 93.6  | 94.4  | 94.9  | 95.3  | 97.6  | 99.8  | 101.7 | 108.4 | 113.2 | 119.8 | 119.3 | 116.7 | 153.6 |
| 1000  | 99.0  | 100.5 | 99.1  | 98.8  | 97.2  | 99.3  | 100.7 | 102.1 | 108.6 | 112.6 | 119.3 | 119.4 | 116.6 | 153.5 |
| 1250  | 96.9  | 101.9 | 101.0 | 101.6 | 100.3 | 102.7 | 102.6 | 103.5 | 110.0 | 112.5 | 119.7 | 118.8 | 115.4 | 153.5 |
| 1600  | 97.8  | 98.2  | 98.1  | 99.0  | 99.5  | 101.6 | 103.5 | 105.0 | 111.4 | 112.5 | 120.6 | 119.0 | 114.0 | 154.0 |
| 2000  | 102.0 | 102.1 | 99.7  | 99.1  | 98.7  | 100.3 | 102.8 | 105.6 | 110.7 | 112.5 | 119.8 | 116.1 | 111.6 | 152.9 |
| 2500  | 101.4 | 102.0 | 101.8 | 101.3 | 99.6  | 101.5 | 103.2 | 105.6 | 110.7 | 113.2 | 118.7 | 114.0 | 108.8 | 152.2 |
| 3150  | 99.0  | 101.6 | 101.4 | 101.6 | 101.0 | 102.0 | 103.4 | 105.1 | 110.2 | 112.1 | 117.1 | 112.5 | 107.7 | 151.0 |
| 4000  | 96.2  | 98.6  | 99.2  | 99.8  | 100.8 | 103.0 | 102.6 | 105.7 | 109.8 | 110.8 | 115.8 | 111.3 | 106.8 | 150.1 |
| 5000  | 94.5  | 97.2  | 97.3  | 99.0  | 98.5  | 102.0 | 103.6 | 105.2 | 109.2 | 110.5 | 113.9 | 109.1 | 105.1 | 149.1 |
| 6300  | 92.4  | 96.0  | 97.1  | 97.7  | 98.0  | 100.9 | 103.2 | 104.9 | 108.2 | 108.6 | 112.3 | 108.3 | 105.1 | 148.1 |
| 8000  | 91.0  | 95.4  | 96.2  | 96.4  | 97.0  | 99.6  | 102.0 | 104.1 | 107.4 | 107.7 | 111.2 | 106.4 | 104.3 | 147.4 |
| 10000 | 90.7  | 94.5  | 96.3  | 97.1  | 97.7  | 99.9  | 102.2 | 103.4 | 106.6 | 106.3 | 109.7 | 106.3 | 103.1 | 147.1 |
| 12500 | 88.7  | 94.0  | 95.5  | 96.2  | 96.2  | 99.2  | 100.3 | 101.7 | 105.4 | 104.4 | 108.5 | 104.7 | 101.7 | 146.5 |
| 16000 | 87.2  | 92.9  | 94.3  | 95.6  | 95.2  | 97.4  | 99.0  | 99.4  | 103.2 | 102.0 | 106.0 | 102.7 | 99.2  | 145.7 |
| 20000 | 84.6  | 90.2  | 92.0  | 94.0  | 93.5  | 95.8  | 96.9  | 96.8  | 100.4 | 98.9  | 103.8 | 101.2 | 95.8  | 145.2 |
| 25000 | 82.4  | 87.6  | 90.2  | 91.2  | 91.6  | 93.7  | 94.6  | 93.6  | 97.2  | 95.4  | 98.9  | 98.4  | 92.6  | 144.3 |
| 31500 | 78.6  | 83.8  | 87.1  | 87.8  | 87.9  | 91.0  | 90.5  | 90.0  | 93.4  | 92.6  | 96.3  | 95.1  | 89.1  | 144.2 |
| 40000 | 74.2  | 80.0  | 85.0  | 82.8  | 83.9  | 87.3  | 86.6  | 86.1  | 89.5  | 89.2  | 92.1  | 92.1  | 84.1  | 144.4 |
| 50000 | 68.1  | 74.3  | 82.9  | 77.3  | 78.0  | 81.8  | 81.2  | 80.5  | 84.5  | 83.3  | 88.5  | 87.0  | 78.6  | 144.0 |
| 63000 | 62.8  | 68.7  | 81.4  | 72.2  | 73.5  | 77.0  | 75.6  | 75.4  | 78.9  | 79.1  | 83.5  | 83.8  | 72.8  | 145.0 |
| 80000 | 55.6  | 61.9  | 79.4  | 65.2  | 67.1  | 70.5  | 68.4  | 69.0  | 72.4  | 73.9  | 78.7  | 78.1  | 65.1  | 147.0 |

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OASPL 108.9 111.0 110.6 111.1 110.8 113.1 114.5 116.2 121.1 123.7 129.7 128.4 126.0 164.3  
PNL 122.2 124.1 123.8 124.3 124.0 126.1 127.3 129.1 133.8 136.1 141.7 139.1 135.6  
PNLT 123.5 125.9 123.8 124.8 124.0 126.1 127.3 129.7 133.8 136.1 142.2 139.1 135.6  
DBA 178.2 184.3 200.1 187.6 189.2 192.6 190.9 191.2 194.6 195.5 200.2 199.8 187.9

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/C&amp;AN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH397 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 44.90 PAMB HG = 29.26 RELHUM = 71.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1678.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2279.8 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0611 TAPE = X0611F TEST PT NO = 0611 NC = AE074 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0611 X06111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 66.0 | 69.8 | 71.7 | 73.4 | 74.2 | 76.7 | 78.7 | 79.7 | 84.9 | 90.2 | 94.5 | 93.0 | 88.6 | 168.5 |
| 63    | 67.3 | 72.1 | 72.4 | 74.7 | 75.7 | 78.2 | 79.7 | 81.2 | 86.2 | 91.7 | 96.0 | 94.0 | 88.5 | 169.7 |
| 80    | 68.2 | 73.2 | 74.3 | 76.1 | 76.3 | 79.6 | 81.3 | 82.3 | 87.3 | 93.6 | 97.4 | 94.4 | 88.9 | 170.8 |
| 100   | 72.1 | 73.7 | 75.6 | 76.8 | 77.6 | 80.1 | 82.1 | 83.6 | 89.6 | 93.3 | 98.4 | 95.6 | 89.5 | 171.8 |
| 125   | 77.4 | 80.5 | 80.2 | 80.7 | 79.4 | 81.7 | 82.9 | 83.9 | 89.7 | 92.6 | 97.7 | 95.6 | 89.2 | 171.6 |
| 160   | 75.1 | 81.8 | 81.9 | 83.3 | 82.5 | 85.0 | 84.7 | 85.2 | 90.9 | 92.4 | 97.9 | 94.7 | 87.6 | 171.7 |
| 200   | 75.8 | 77.9 | 78.9 | 80.6 | 81.5 | 83.8 | 85.4 | 86.6 | 92.2 | 92.1 | 98.6 | 94.6 | 85.8 | 172.1 |
| 250   | 79.7 | 81.4 | 80.3 | 80.4 | 80.5 | 82.2 | 84.6 | 86.9 | 91.3 | 91.9 | 97.4 | 91.2 | 82.7 | 171.0 |
| 315   | 78.6 | 81.0 | 82.0 | 82.3 | 81.2 | 83.2 | 84.7 | 86.6 | 90.9 | 92.2 | 96.0 | 88.6 | 79.1 | 170.3 |
| 400   | 75.8 | 80.2 | 81.3 | 82.4 | 82.2 | 83.4 | 84.6 | 85.9 | 90.1 | 90.7 | 93.8 | 86.4 | 77.0 | 169.1 |
| 500   | 72.5 | 76.8 | 78.8 | 80.3 | 81.7 | 84.1 | 83.6 | 86.1 | 89.4 | 89.0 | 92.0 | 84.6 | 75.2 | 168.2 |
| 630   | 70.3 | 75.0 | 76.6 | 79.1 | 79.2 | 82.8 | 84.3 | 85.3 | 88.4 | 88.4 | 89.6 | 81.7 | 73.4 | 167.2 |
| 800   | 67.7 | 73.5 | 76.0 | 77.5 | 78.4 | 81.5 | 83.6 | 84.8 | 87.1 | 86.0 | 87.6 | 80.3 | 71.2 | 166.2 |
| 1000  | 65.9 | 72.5 | 74.9 | 76.1 | 77.3 | 80.0 | 82.3 | 83.8 | 86.1 | 84.9 | 86.0 | 77.6 | 69.3 | 165.5 |
| 1250  | 65.0 | 71.3 | 74.7 | 76.6 | 77.8 | 80.3 | 82.3 | 83.0 | 85.1 | 83.1 | 84.0 | 76.7 | 66.6 | 165.2 |
| 1600  | 62.2 | 70.2 | 73.6 | 75.4 | 76.1 | 79.3 | 80.1 | 80.9 | 83.4 | 80.6 | 82.0 | 73.8 | 62.9 | 164.6 |
| 2000  | 59.7 | 68.6 | 72.0 | 74.6 | 74.9 | 77.3 | 78.7 | 78.3 | 80.9 | 77.6 | 78.5 | 70.1 | 57.4 | 163.9 |
| 2500  | 55.3 | 64.6 | 68.8 | 72.3 | 72.6 | 75.2 | 76.0 | 75.1 | 77.2 | 73.3 | 74.5 | 65.8 | 49.1 | 163.3 |
| 3150  | 49.7 | 59.6 | 65.1 | 68.0 | 69.3 | 71.7 | 72.3 | 70.4 | 72.1 | 67.4 | 66.2 | 58.0 | 37.5 | 162.4 |
| 4000  | 39.7 | 51.1 | 58.2 | 61.3 | 62.6 | 66.2 | 65.2 | 63.5 | 64.5 | 59.8 | 57.4 | 45.8 | 19.5 | 162.3 |
| 5000  | 25.5 | 39.7 | 49.8 | 50.8 | 53.7 | 57.6 | 56.4 | 54.2 | 54.4 | 48.9 | 43.4 | 29.1 |      | 162.5 |
| 6300  | 1.6  | 19.8 | 35.7 | 34.6 | 37.7 | 42.3 | 40.9 | 37.8 | 37.3 | 28.7 | 22.1 |      |      | 162.1 |
| 8000  |      |      | 12.9 | 10.2 | 15.0 | 19.7 | 17.1 | 13.5 | 10.3 |      |      |      |      | 163.2 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 165.2 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |      |      |      |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 86.1 | 89.6 | 90.4 | 91.6 | 91.7 | 94.1  | 95.4  | 96.7  | 101.1 | 102.8 | 107.4 | 103.7 | 97.2 | 182.1 |
| PNL   | 90.2 | 94.6 | 96.5 | 98.0 | 98.4 | 101.0 | 102.2 | 102.8 | 106.4 | 106.7 | 110.3 | 105.1 | 96.7 |       |
| PNLT  | 91.3 | 95.5 | 96.5 | 98.0 | 98.4 | 101.0 | 102.2 | 102.8 | 106.9 | 107.7 | 110.3 | 105.1 | 96.7 |       |
| DBA   | 79.0 | 83.4 | 85.3 | 86.9 | 87.5 | 90.1  | 91.5  | 92.6  | 95.6  | 95.1  | 98.1  | 91.8  | 83.3 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH397 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 44.90 PAMB HG = 29.26 RELHUM = 71.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1678.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2279.8 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0611 TAPE = X06111 TEST PT NO = 0611 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0612 X0612C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.6 | 84.9 | 79.9 | 83.0 | 82.1 | 81.7 | 84.6 | 83.5  | 87.9  | 87.5  | 90.6  | 91.6  | 100.7 | 131.0 |
| 63    | 88.5 | 90.3 | 85.1 | 88.1 | 89.4 | 87.6 | 92.4 | 87.1  | 94.3  | 94.4  | 93.3  | 94.2  | 98.1  | 133.7 |
| 80    | 88.0 | 92.3 | 86.6 | 89.4 | 88.2 | 91.1 | 91.7 | 90.1  | 92.6  | 92.7  | 94.3  | 96.5  | 100.6 | 134.5 |
| 100   | 86.2 | 91.0 | 86.5 | 88.5 | 89.1 | 90.8 | 91.4 | 92.3  | 93.3  | 93.6  | 96.2  | 100.1 | 103.3 | 136.1 |
| 125   | 84.4 | 86.2 | 87.7 | 90.2 | 89.8 | 91.2 | 91.3 | 90.5  | 91.9  | 94.3  | 100.9 | 103.3 | 106.2 | 138.3 |
| 160   | 82.9 | 81.2 | 84.5 | 85.3 | 84.9 | 86.2 | 87.9 | 86.8  | 91.2  | 94.8  | 101.2 | 103.6 | 108.0 | 138.7 |
| 200   | 84.3 | 83.8 | 82.1 | 84.4 | 85.5 | 87.3 | 89.2 | 89.9  | 95.1  | 96.1  | 101.3 | 105.7 | 108.1 | 139.6 |
| 250   | 81.5 | 84.1 | 83.6 | 85.6 | 86.0 | 88.1 | 90.0 | 91.9  | 95.1  | 100.4 | 106.3 | 109.5 | 109.9 | 142.7 |
| 315   | 83.8 | 85.6 | 83.9 | 86.4 | 86.8 | 89.4 | 91.8 | 92.4  | 97.6  | 102.5 | 108.6 | 110.8 | 110.2 | 144.2 |
| 400   | 84.1 | 85.4 | 85.2 | 86.1 | 87.5 | 89.4 | 91.5 | 92.4  | 98.6  | 106.7 | 112.1 | 112.8 | 109.2 | 146.3 |
| 500   | 84.6 | 87.4 | 86.7 | 87.9 | 88.5 | 91.4 | 92.0 | 94.4  | 100.4 | 108.7 | 113.4 | 112.3 | 105.9 | 146.9 |
| 630   | 85.3 | 87.8 | 87.6 | 89.1 | 89.0 | 91.8 | 94.2 | 96.1  | 101.6 | 110.7 | 114.8 | 112.0 | 102.6 | 147.9 |
| 800   | 87.6 | 87.4 | 88.4 | 89.7 | 90.3 | 93.4 | 95.0 | 97.4  | 104.1 | 111.2 | 115.1 | 110.5 | 99.9  | 148.1 |
| 1000  | 90.5 | 90.0 | 90.1 | 91.9 | 91.4 | 94.6 | 95.4 | 98.4  | 104.6 | 110.9 | 114.3 | 107.9 | 98.1  | 147.3 |
| 1250  | 89.4 | 93.2 | 92.0 | 92.6 | 92.6 | 95.5 | 96.9 | 99.5  | 105.7 | 109.8 | 113.2 | 104.9 | 96.4  | 146.5 |
| 1600  | 93.3 | 93.5 | 91.9 | 93.0 | 93.5 | 96.6 | 98.2 | 100.3 | 107.4 | 109.7 | 112.6 | 103.8 | 95.5  | 146.5 |
| 2000  | 96.0 | 97.3 | 94.7 | 94.1 | 93.2 | 96.1 | 97.8 | 101.1 | 106.5 | 109.8 | 112.0 | 101.6 | 95.6  | 146.1 |
| 2500  | 95.6 | 97.7 | 96.5 | 97.2 | 95.6 | 97.0 | 98.4 | 101.3 | 106.2 | 109.9 | 111.0 | 101.5 | 95.0  | 145.9 |
| 3150  | 93.5 | 95.0 | 95.1 | 97.1 | 97.4 | 99.2 | 98.9 | 101.6 | 106.7 | 109.0 | 110.5 | 101.9 | 94.7  | 145.7 |
| 4000  | 91.2 | 92.7 | 92.1 | 95.0 | 96.2 | 99.2 | 99.3 | 102.1 | 106.2 | 107.9 | 109.7 | 102.0 | 94.8  | 145.2 |
| 5000  | 90.9 | 92.6 | 91.2 | 93.8 | 93.9 | 97.6 | 99.2 | 101.3 | 106.5 | 108.1 | 108.5 | 101.3 | 95.3  | 144.9 |
| 6300  | 90.8 | 92.3 | 90.1 | 94.0 | 93.5 | 97.2 | 98.8 | 101.0 | 105.2 | 106.9 | 107.6 | 100.2 | 93.9  | 144.1 |
| 8000  | 90.3 | 93.0 | 90.1 | 92.8 | 93.5 | 96.3 | 98.0 | 100.3 | 104.6 | 105.4 | 105.6 | 98.1  | 92.8  | 143.3 |
| 10000 | 91.6 | 93.1 | 90.6 | 93.7 | 94.6 | 96.6 | 97.8 | 100.0 | 103.5 | 103.8 | 104.0 | 98.0  | 92.0  | 142.9 |
| 12500 | 90.8 | 92.7 | 89.8 | 93.5 | 93.0 | 95.0 | 96.1 | 97.8  | 102.4 | 101.9 | 102.0 | 96.0  | 91.0  | 142.2 |
| 16000 | 90.3 | 93.4 | 88.9 | 93.4 | 92.2 | 94.5 | 95.5 | 96.2  | 100.3 | 99.2  | 100.0 | 94.8  | 90.3  | 141.9 |
| 20000 | 87.7 | 90.1 | 87.5 | 92.3 | 91.0 | 93.3 | 93.4 | 93.3  | 97.7  | 96.1  | 96.8  | 93.0  | 87.3  | 141.2 |
| 25000 | 83.4 | 87.7 | 84.9 | 90.2 | 89.8 | 92.4 | 92.1 | 91.4  | 95.2  | 92.7  | 93.2  | 90.9  | 86.1  | 141.3 |
| 31500 | 80.7 | 83.6 | 81.1 | 86.5 | 86.7 | 89.3 | 88.6 | 88.5  | 92.6  | 90.3  | 89.6  | 87.7  | 82.1  | 141.3 |
| 40000 | 76.0 | 79.7 | 79.4 | 82.3 | 82.3 | 86.1 | 85.5 | 84.9  | 89.0  | 86.8  | 85.9  | 84.2  | 77.6  | 141.8 |
| 50000 | 70.4 | 73.8 | 77.9 | 77.0 | 77.7 | 81.2 | 80.2 | 79.2  | 84.0  | 81.3  | 81.4  | 79.4  | 72.1  | 141.2 |
| 63000 | 64.9 | 68.5 | 77.8 | 71.5 | 73.3 | 76.8 | 74.9 | 75.0  | 78.7  | 75.7  | 76.1  | 74.8  | 65.4  | 142.0 |
| 80000 | 58.2 | 61.4 | 77.1 | 65.6 | 66.5 | 70.0 | 68.0 | 67.7  | 72.1  | 70.5  | 70.7  | 68.0  | 57.8  | 143.9 |

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OSAPL 104.5 106.3 104.6 106.7 106.6 109.1 110.2 112.3 117.4 121.0 124.0 120.7 117.9 159.2  
PNL 117.5 119.3 118.0 119.7 119.9 122.2 123.0 125.4 130.2 133.2 135.4 129.5 125.3  
PNLT 117.5 119.3 118.0 120.3 119.9 122.2 123.0 125.4 130.2 133.2 135.4 129.5 125.3  
DBA 104.0 105.5 104.2 105.7 105.7 108.3 109.4 112.0 117.2 120.8 123.4 117.9 111.9

NASA DUAL FLOW SHOCK CELL/CON. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH415 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 60.20 PAMB HG = 29.42 RELHUM = 67.3 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1690.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2281.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0612 TAPE = X0612C TEST PT NO = 0612 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0612 X0612F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 89.1  | 90.3  | 88.4  | 88.8  | 87.5  | 88.1  | 88.1  | 88.3  | 94.2  | 98.1  | 103.7 | 106.3 | 107.6 | 140.3 |
| 315   | 89.0  | 90.3  | 88.4  | 88.8  | 88.5  | 89.6  | 90.4  | 89.6  | 96.0  | 103.2 | 108.1 | 109.6 | 108.5 | 143.3 |
| 400   | 90.7  | 91.4  | 88.5  | 89.6  | 89.3  | 89.6  | 90.6  | 90.3  | 98.8  | 106.7 | 111.4 | 111.8 | 109.0 | 145.8 |
| 500   | 91.1  | 91.3  | 90.0  | 89.9  | 90.4  | 91.7  | 91.3  | 92.7  | 99.7  | 108.4 | 112.8 | 112.1 | 107.6 | 146.7 |
| 630   | 92.1  | 93.7  | 91.6  | 91.4  | 90.9  | 92.2  | 93.3  | 94.0  | 102.5 | 109.3 | 113.7 | 111.9 | 107.6 | 147.3 |
| 800   | 92.9  | 94.0  | 92.6  | 92.6  | 92.3  | 93.9  | 94.1  | 95.3  | 103.4 | 109.5 | 113.6 | 110.7 | 108.4 | 147.2 |
| 1000  | 95.3  | 93.8  | 93.5  | 93.3  | 93.4  | 95.2  | 94.7  | 96.4  | 104.5 | 108.3 | 112.3 | 107.5 | 106.5 | 146.0 |
| 1250  | 96.9  | 95.6  | 94.6  | 95.1  | 94.7  | 96.3  | 96.2  | 97.6  | 106.4 | 108.4 | 111.8 | 106.4 | 105.7 | 146.0 |
| 1600  | 96.0  | 98.9  | 96.6  | 96.0  | 95.6  | 97.7  | 97.8  | 98.5  | 105.7 | 108.7 | 111.5 | 104.5 | 106.0 | 145.9 |
| 2000  | 98.9  | 98.5  | 96.1  | 96.2  | 95.3  | 97.3  | 97.6  | 99.6  | 105.8 | 109.3 | 110.9 | 104.8 | 105.9 | 145.9 |
| 2500  | 102.4 | 102.6 | 98.9  | 97.2  | 98.0  | 98.6  | 98.6  | 100.1 | 106.9 | 108.9 | 111.1 | 105.9 | 106.3 | 146.6 |
| 3150  | 100.7 | 102.1 | 100.3 | 100.3 | 100.7 | 101.3 | 99.5  | 100.9 | 107.2 | 108.6 | 110.9 | 106.6 | 106.8 | 146.9 |
| 4000  | 101.1 | 101.7 | 100.6 | 101.5 | 100.5 | 101.7 | 100.5 | 102.1 | 107.6 | 108.9 | 109.8 | 106.0 | 107.5 | 147.1 |
| 5000  | 101.5 | 101.7 | 99.6  | 100.8 | 97.9  | 100.6 | 100.7 | 101.5 | 106.3 | 107.7 | 109.0 | 105.0 | 106.2 | 146.3 |
| 6300  | 98.4  | 99.3  | 97.0  | 98.7  | 97.6  | 100.2 | 100.3 | 101.1 | 105.8 | 106.4 | 107.2 | 103.1 | 105.2 | 145.2 |
| 8000  | 98.1  | 98.9  | 95.8  | 98.7  | 97.5  | 99.3  | 99.5  | 100.5 | 105.2 | 105.3 | 106.1 | 103.5 | 105.0 | 145.0 |
| 10000 | 97.4  | 98.4  | 95.6  | 97.4  | 98.6  | 99.6  | 99.6  | 100.5 | 104.7 | 104.0 | 104.8 | 102.3 | 104.7 | 144.9 |
| 12500 | 98.5  | 99.2  | 95.8  | 97.9  | 97.1  | 99.0  | 98.1  | 98.5  | 104.0 | 102.7 | 104.2 | 102.2 | 104.8 | 145.1 |
| 16000 | 97.2  | 98.3  | 94.5  | 97.2  | 96.3  | 97.5  | 97.9  | 97.6  | 102.0 | 100.3 | 101.6 | 100.9 | 102.4 | 144.8 |
| 20000 | 96.1  | 98.5  | 93.1  | 96.7  | 95.1  | 96.3  | 95.8  | 94.8  | 99.6  | 96.5  | 97.1  | 97.6  | 99.6  | 144.4 |
| 25000 | 93.0  | 94.7  | 91.2  | 95.0  | 94.4  | 95.4  | 94.1  | 92.5  | 98.6  | 95.9  | 95.4  | 96.5  | 97.8  | 145.2 |
| 31500 | 90.7  | 93.7  | 89.6  | 93.3  | 91.3  | 92.3  | 91.0  | 90.3  | 95.8  | 93.4  | 93.1  | 94.5  | 94.9  | 145.9 |
| 40000 | 87.2  | 88.8  | 84.9  | 88.7  | 86.9  | 89.1  | 87.9  | 86.6  | 91.1  | 88.3  | 89.0  | 90.2  | 90.0  | 145.6 |
| 50000 | 82.1  | 84.5  | 82.8  | 84.1  | 82.3  | 84.2  | 82.6  | 80.8  | 86.5  | 83.3  | 84.4  | 86.5  | 84.3  | 145.3 |
| 63000 | 75.6  | 77.7  | 80.3  | 77.8  | 77.7  | 79.8  | 77.3  | 76.6  | 80.7  | 78.8  | 79.7  | 80.5  | 77.7  | 145.5 |
| 80000 | 67.2  | 69.9  | 78.1  | 70.5  | 70.4  | 73.0  | 70.2  | 68.7  | 70.9  | 69.0  | 69.9  | 70.7  | 67.9  | 145.4 |
| BASPL | 110.9 | 111.7 | 109.2 | 110.2 | 109.5 | 111.0 | 110.7 | 111.6 | 117.6 | 120.2 | 123.2 | 120.6 | 119.5 | 159.9 |
| PNL   | 123.2 | 124.0 | 122.0 | 122.7 | 122.1 | 123.4 | 122.8 | 124.1 | 130.0 | 132.2 | 134.5 | 130.8 | 131.1 |       |
| PNLT  | 123.2 | 124.0 | 122.0 | 122.7 | 122.1 | 123.4 | 122.8 | 124.1 | 130.0 | 132.2 | 134.5 | 130.8 | 131.1 |       |
| DBA   | 190.4 | 192.9 | 198.9 | 193.2 | 192.8 | 195.2 | 192.7 | 191.4 | 194.8 | 192.7 | 193.6 | 194.6 | 192.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH415 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 60.20 PAMB HG = 29.42 RELHUM = 67.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1690.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2281.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0612 TAPE = X0612F TEST PT NO = 0612 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0612 X06121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 69.4 | 71.7 | 69.8 | 71.6 | 71.7 | 72.2 | 73.1 | 72.3 | 80.1 | 87.0 | 90.1 | 88.3 | 82.2 | 163.9 |
| 63    | 69.7 | 71.5 | 71.3 | 71.9 | 72.8 | 74.3 | 73.7 | 74.7 | 81.0 | 88.6 | 91.5 | 88.6 | 80.7 | 164.8 |
| 80    | 70.7 | 73.9 | 72.8 | 73.3 | 73.3 | 74.8 | 75.7 | 76.0 | 83.8 | 89.5 | 92.3 | 88.3 | 80.6 | 165.4 |
| 100   | 71.5 | 74.1 | 73.8 | 74.6 | 74.7 | 76.4 | 76.5 | 77.2 | 84.6 | 89.6 | 92.1 | 87.0 | 81.2 | 165.3 |
| 125   | 73.7 | 73.8 | 74.6 | 75.1 | 75.7 | 77.6 | 76.9 | 78.2 | 85.6 | 88.3 | 90.8 | 83.6 | 79.1 | 164.1 |
| 160   | 75.1 | 75.4 | 75.5 | 76.8 | 76.9 | 78.5 | 78.3 | 79.3 | 87.3 | 88.2 | 90.0 | 82.2 | 77.9 | 164.1 |
| 200   | 74.0 | 78.6 | 77.4 | 77.6 | 77.6 | 79.8 | 79.8 | 80.1 | 86.5 | 88.4 | 89.5 | 80.1 | 77.8 | 164.1 |
| 250   | 76.6 | 77.8 | 76.6 | 77.5 | 77.1 | 79.3 | 79.4 | 81.0 | 86.3 | 88.7 | 88.5 | 79.9 | 77.0 | 164.1 |
| 315   | 79.6 | 81.7 | 79.1 | 78.2 | 79.5 | 80.3 | 80.1 | 81.2 | 87.1 | 88.0 | 88.3 | 80.5 | 76.6 | 164.8 |
| 400   | 77.4 | 80.8 | 80.2 | 81.0 | 81.9 | 82.6 | 80.7 | 81.7 | 87.1 | 87.2 | 87.6 | 80.5 | 76.1 | 165.1 |
| 500   | 77.3 | 79.9 | 80.2 | 81.9 | 81.4 | 82.8 | 81.5 | 82.6 | 87.2 | 87.1 | 86.1 | 79.3 | 75.9 | 165.2 |
| 630   | 77.2 | 79.6 | 78.8 | 81.0 | 78.6 | 81.4 | 81.4 | 81.6 | 85.6 | 85.5 | 84.8 | 77.6 | 73.5 | 164.4 |
| 800   | 73.6 | 76.7 | 75.9 | 78.6 | 78.0 | 80.8 | 80.7 | 81.0 | 84.8 | 83.8 | 82.5 | 75.0 | 71.3 | 163.4 |
| 1000  | 72.9 | 76.0 | 74.5 | 78.4 | 77.8 | 79.8 | 79.3 | 80.2 | 83.9 | 82.5 | 81.0 | 74.7 | 70.0 | 163.1 |
| 1250  | 71.7 | 76.3 | 74.1 | 76.9 | 78.8 | 79.9 | 79.8 | 80.0 | 83.2 | 80.8 | 79.2 | 72.7 | 68.2 | 163.1 |
| 1600  | 71.9 | 75.4 | 73.9 | 77.2 | 76.9 | 79.1 | 78.0 | 77.7 | 82.0 | 78.9 | 77.6 | 71.3 | 66.0 | 163.2 |
| 2000  | 69.6 | 73.9 | 72.2 | 76.2 | 76.0 | 77.4 | 77.6 | 76.5 | 79.7 | 75.9 | 74.1 | 68.4 | 60.6 | 162.9 |
| 2500  | 66.8 | 72.9 | 69.9 | 75.0 | 74.2 | 75.7 | 74.9 | 73.1 | 76.3 | 70.9 | 67.8 | 62.2 | 52.9 | 162.5 |
| 3150  | 60.3 | 66.7 | 66.1 | 71.7 | 72.2 | 73.5 | 71.8 | 69.2 | 73.5 | 67.9 | 62.8 | 56.1 | 42.7 | 163.3 |
| 4000  | 51.8 | 61.0 | 60.7 | 66.8 | 66.1 | 67.5 | 65.8 | 63.7 | 66.9 | 60.7 | 54.2 | 45.2 | 25.3 | 164.0 |
| 5000  | 38.5 | 48.5 | 49.8 | 56.8 | 56.7 | 59.5 | 57.7 | 54.7 | 56.0 | 48.0 | 40.3 | 27.2 |      | 163.7 |
| 6300  | 15.6 | 30.0 | 35.6 | 41.4 | 42.0 | 44.7 | 42.3 | 38.1 | 39.3 | 28.8 | 18.0 |      |      | 163.5 |
| 8000  |      |      | 11.8 | 15.9 | 19.3 | 22.5 | 18.9 | 14.6 | 12.1 |      |      |      |      | 163.7 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 163.6 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |      |      |      |      |      |       |      |      |       |       |       |      |      |       |
|-------|------|------|------|------|------|-------|------|------|-------|-------|-------|------|------|-------|
| OASPL | 87.1 | 89.7 | 88.7 | 90.3 | 90.3 | 91.9  | 91.5 | 92.0 | 97.4  | 99.3  | 100.8 | 95.6 | 89.8 | 177.9 |
| PNL   | 93.3 | 97.1 | 95.6 | 98.9 | 98.6 | 100.2 | 99.7 | 99.4 | 103.8 | 103.5 | 103.6 | 96.8 | 91.6 |       |
| PNLT  | 94.3 | 97.1 | 96.1 | 99.4 | 98.6 | 100.2 | 99.7 | 99.4 | 104.4 | 103.5 | 103.6 | 96.8 | 91.6 |       |
| DBA   | 83.1 | 86.4 | 85.2 | 87.8 | 87.6 | 89.3  | 88.8 | 89.0 | 93.1  | 92.3  | 91.8  | 84.7 | 80.5 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH415 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 60.20 PAMB HG = 29.42 RELHUM = 67.3 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1690.7 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2281.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0612 TAPE = X06121 TEST PT NO = 0612 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0613 X0613C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4  | 82.7  | 82.7  | 82.7  | 83.1  | 82.9  | 86.1  | 86.5  | 88.2  | 86.2  | 95.1  | 95.6  | 96.0  | 131.0 |
| 63    | 91.5  | 87.5  | 88.6  | 88.4  | 89.7  | 90.8  | 95.7  | 91.4  | 94.3  | 93.1  | 102.5 | 102.5 | 102.6 | 138.0 |
| 80    | 89.5  | 94.3  | 88.6  | 91.1  | 91.0  | 93.1  | 93.7  | 91.6  | 94.3  | 94.7  | 97.8  | 98.7  | 100.6 | 136.4 |
| 100   | 88.0  | 94.0  | 90.0  | 92.0  | 92.9  | 94.0  | 95.1  | 95.5  | 96.8  | 97.3  | 99.5  | 103.4 | 104.6 | 139.0 |
| 125   | 84.4  | 87.9  | 90.2  | 92.5  | 92.3  | 93.4  | 94.1  | 93.2  | 95.4  | 97.8  | 105.1 | 106.3 | 107.7 | 141.1 |
| 160   | 83.9  | 85.2  | 88.5  | 88.3  | 87.9  | 90.5  | 92.4  | 91.5  | 95.5  | 98.1  | 105.4 | 107.9 | 110.8 | 142.3 |
| 200   | 87.0  | 87.8  | 87.3  | 89.9  | 90.7  | 92.8  | 94.0  | 95.4  | 100.1 | 101.1 | 107.8 | 111.0 | 112.4 | 144.7 |
| 250   | 86.3  | 90.8  | 90.3  | 91.1  | 91.2  | 93.1  | 95.7  | 97.1  | 100.3 | 106.1 | 111.8 | 114.2 | 114.1 | 147.7 |
| 315   | 86.6  | 90.6  | 89.6  | 90.7  | 92.3  | 94.9  | 96.5  | 97.2  | 102.9 | 107.2 | 114.1 | 115.5 | 115.2 | 149.2 |
| 400   | 87.6  | 90.8  | 91.4  | 92.2  | 92.2  | 94.6  | 96.7  | 97.9  | 104.1 | 111.7 | 116.6 | 117.3 | 115.9 | 151.2 |
| 500   | 88.6  | 92.4  | 92.1  | 93.4  | 93.8  | 96.9  | 97.8  | 99.7  | 105.6 | 113.5 | 118.3 | 118.3 | 115.4 | 152.5 |
| 630   | 90.0  | 93.6  | 93.6  | 94.4  | 94.5  | 97.6  | 99.2  | 100.9 | 107.1 | 115.2 | 119.8 | 119.0 | 116.4 | 153.7 |
| 800   | 94.3  | 94.6  | 95.4  | 95.9  | 95.8  | 98.4  | 100.5 | 102.4 | 109.1 | 115.2 | 120.6 | 119.8 | 116.9 | 154.4 |
| 1000  | 99.0  | 102.0 | 99.8  | 99.6  | 98.2  | 100.3 | 101.4 | 103.1 | 109.1 | 114.6 | 120.3 | 120.2 | 117.1 | 154.4 |
| 1250  | 97.9  | 103.7 | 103.0 | 103.6 | 102.3 | 103.5 | 103.1 | 104.0 | 111.0 | 113.5 | 120.4 | 120.1 | 114.9 | 154.4 |
| 1600  | 103.1 | 103.5 | 101.4 | 101.0 | 100.3 | 102.4 | 104.2 | 105.3 | 112.1 | 113.5 | 121.6 | 119.3 | 114.0 | 154.8 |
| 2000  | 107.5 | 107.8 | 105.5 | 103.9 | 100.5 | 101.6 | 103.1 | 106.1 | 111.5 | 114.0 | 121.0 | 116.1 | 111.9 | 154.1 |
| 2500  | 107.2 | 107.7 | 107.3 | 107.5 | 104.4 | 103.3 | 104.2 | 106.3 | 111.2 | 114.7 | 120.0 | 114.8 | 109.6 | 153.7 |
| 3150  | 103.0 | 105.6 | 105.9 | 106.6 | 107.0 | 107.3 | 104.9 | 106.1 | 111.2 | 113.3 | 117.6 | 113.2 | 108.0 | 152.4 |
| 4000  | 100.7 | 103.3 | 103.4 | 104.6 | 105.0 | 107.7 | 106.6 | 106.5 | 111.1 | 112.5 | 116.5 | 111.8 | 106.8 | 151.7 |
| 5000  | 98.8  | 102.0 | 102.3 | 103.2 | 102.5 | 105.5 | 107.1 | 106.9 | 110.9 | 111.8 | 114.9 | 110.4 | 105.4 | 150.8 |
| 6300  | 97.0  | 100.5 | 100.8 | 102.4 | 102.5 | 104.2 | 105.7 | 107.7 | 109.9 | 110.3 | 113.6 | 109.4 | 104.6 | 150.0 |
| 8000  | 94.8  | 99.9  | 99.9  | 100.4 | 101.3 | 103.8 | 105.0 | 106.6 | 109.6 | 109.3 | 111.7 | 107.4 | 103.8 | 149.2 |
| 10000 | 94.2  | 98.8  | 99.3  | 100.3 | 101.5 | 103.2 | 105.0 | 105.9 | 108.4 | 107.8 | 111.2 | 106.8 | 103.3 | 149.0 |
| 12500 | 92.5  | 97.2  | 98.6  | 99.2  | 100.0 | 102.0 | 102.5 | 103.5 | 107.9 | 105.7 | 109.3 | 105.0 | 101.2 | 148.2 |
| 15000 | 89.7  | 95.7  | 96.4  | 98.6  | 98.9  | 99.7  | 101.0 | 101.4 | 105.0 | 103.5 | 107.0 | 104.2 | 98.9  | 147.5 |
| 20000 | 86.6  | 92.2  | 94.0  | 96.0  | 96.0  | 98.8  | 98.9  | 98.8  | 102.2 | 100.4 | 104.3 | 101.0 | 96.3  | 146.6 |
| 25000 | 83.6  | 90.1  | 91.9  | 93.0  | 93.6  | 96.4  | 96.8  | 95.4  | 99.1  | 96.6  | 99.9  | 98.1  | 93.1  | 145.8 |
| 31500 | 80.1  | 85.5  | 88.1  | 89.3  | 90.1  | 92.7  | 92.7  | 92.7  | 96.1  | 94.0  | 97.0  | 94.8  | 89.3  | 145.7 |
| 40000 | 75.6  | 81.6  | 85.9  | 84.7  | 85.6  | 89.5  | 88.5  | 88.1  | 92.4  | 90.9  | 93.2  | 91.5  | 83.3  | 146.0 |
| 50000 | 69.0  | 76.2  | 83.3  | 78.7  | 80.1  | 83.4  | 82.6  | 82.4  | 86.9  | 84.9  | 88.4  | 86.9  | 78.0  | 145.0 |
| 63000 | 63.2  | 70.3  | 81.8  | 73.3  | 75.1  | 78.4  | 77.2  | 77.6  | 81.2  | 80.7  | 84.3  | 83.2  | 72.2  | 146.0 |
| 80000 | 56.5  | 63.0  | 80.2  | 66.3  | 68.5  | 72.1  | 71.0  | 70.4  | 74.9  | 74.7  | 79.0  | 78.2  | 65.4  | 147.9 |
| CASPL | 113.2 | 115.0 | 114.4 | 114.8 | 114.2 | 115.8 | 116.4 | 117.5 | 122.2 | 125.2 | 130.7 | 129.1 | 126.3 | 165.4 |
| PNL   | 126.7 | 128.3 | 127.8 | 128.3 | 128.2 | 129.5 | 129.5 | 130.2 | 134.9 | 137.5 | 142.7 | 139.7 | 135.9 |       |
| PNLT  | 126.7 | 128.3 | 127.8 | 129.4 | 129.2 | 129.5 | 129.5 | 130.7 | 134.9 | 137.5 | 142.7 | 139.7 | 135.9 |       |
| DBA   | 113.9 | 115.5 | 114.7 | 115.0 | 114.2 | 115.6 | 115.9 | 117.1 | 122.1 | 124.9 | 130.6 | 128.4 | 124.6 |       |

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|          |                |           |            |            |                |          |           |                |         |              |            |              |
|----------|----------------|-----------|------------|------------|----------------|----------|-----------|----------------|---------|--------------|------------|--------------|
| VEHICLE  | = ADH398       | TEST DATE | = 11-29-82 | LOCAT      | = C41 ANECH CH | CONFIG   | = 6       | MODEL          | = 6     | FLTVEL       | = 0. FPS   |              |
| IAPLHA   | = SB59         | IEGA      | = NO       | PWL AREA   | = FULL SPHERE  | TAMB F   | = 44.90   | PAMB HG        | = 29.28 | RELHUM       | = 69.9 PCT |              |
| WIND DIR | =              | DEG       |            | WIND VEL   | = MPH          | EXT DIST | = 40.0 FT | EXT CONFIG     | = ARC   | MIKE HT      | =          |              |
| FNINI    | =              | LBS       | XNL        | =          | RPM            | XNH      | =         | RPM            | V8      | = 1687.4 FPS | AE8        | = 3.4 SQ IN  |
| FNRAMB   | =              | LBS       | XNLR       | =          | RPM            | XNHR     | =         | RPM            | V18     | = 2362.4 FPS | AE18       | = 18.0 SQ IN |
| RUNPT    | = 82F-ZER-0613 | TAPE      | = X0613C   | TEST PT NO | = 0613         | NC       | = AE074   | CORR FAN SPEED | =       | RPM          |            |              |

ORIGINAL PAGE 10  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0613 X0613F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4  | 82.7  | 82.7  | 82.7  | 83.1  | 82.9  | 86.1  | 86.5  | 88.2  | 86.2  | 95.1  | 95.6  | 96.0  | 131.0 |
| 63    | 91.5  | 87.5  | 88.6  | 88.4  | 89.7  | 90.8  | 95.7  | 91.4  | 94.3  | 93.1  | 102.5 | 102.5 | 102.6 | 138.0 |
| 80    | 89.5  | 94.3  | 88.6  | 91.1  | 91.0  | 93.1  | 93.7  | 91.6  | 94.3  | 94.7  | 97.8  | 98.7  | 100.6 | 136.4 |
| 100   | 88.0  | 94.0  | 90.0  | 92.0  | 92.9  | 94.0  | 95.1  | 95.5  | 96.8  | 97.3  | 99.5  | 103.4 | 104.6 | 139.0 |
| 125   | 84.4  | 87.9  | 90.2  | 92.5  | 92.3  | 93.4  | 94.1  | 93.2  | 95.4  | 97.8  | 105.1 | 106.3 | 107.7 | 141.1 |
| 160   | 83.9  | 85.2  | 88.5  | 88.3  | 87.9  | 90.5  | 92.4  | 91.5  | 95.5  | 98.1  | 105.4 | 107.9 | 110.8 | 142.3 |
| 200   | 87.0  | 87.8  | 87.3  | 89.9  | 90.7  | 92.8  | 94.0  | 95.4  | 100.1 | 101.1 | 107.8 | 111.0 | 112.4 | 144.7 |
| 250   | 86.3  | 90.8  | 90.3  | 91.1  | 91.2  | 93.1  | 95.7  | 97.1  | 100.3 | 106.1 | 111.8 | 114.2 | 114.1 | 147.7 |
| 315   | 86.6  | 90.6  | 89.6  | 90.7  | 92.3  | 94.9  | 96.5  | 97.2  | 102.9 | 107.2 | 114.1 | 115.5 | 115.2 | 149.2 |
| 400   | 87.6  | 90.8  | 91.4  | 92.2  | 92.2  | 94.6  | 96.7  | 97.9  | 104.1 | 111.7 | 116.6 | 117.3 | 115.9 | 151.2 |
| 500   | 88.6  | 92.4  | 92.1  | 93.4  | 93.8  | 96.9  | 97.8  | 99.7  | 105.6 | 113.5 | 118.3 | 118.3 | 115.4 | 152.5 |
| 630   | 90.0  | 93.6  | 93.6  | 94.4  | 94.5  | 97.6  | 99.2  | 100.9 | 107.1 | 115.2 | 119.8 | 119.0 | 116.4 | 153.7 |
| 800   | 94.3  | 94.6  | 95.4  | 95.9  | 95.8  | 98.4  | 100.5 | 102.4 | 109.1 | 115.2 | 120.6 | 119.8 | 116.9 | 154.4 |
| 1000  | 99.0  | 102.0 | 99.8  | 99.6  | 98.2  | 100.3 | 101.4 | 103.1 | 109.1 | 114.6 | 120.3 | 120.2 | 117.1 | 154.4 |
| 1250  | 97.9  | 103.7 | 103.0 | 103.6 | 102.3 | 103.5 | 103.1 | 104.0 | 111.0 | 113.5 | 120.4 | 120.1 | 114.9 | 154.4 |
| 1600  | 103.1 | 103.5 | 101.4 | 101.0 | 100.3 | 102.4 | 104.2 | 105.3 | 112.1 | 113.5 | 121.6 | 119.3 | 114.0 | 154.8 |
| 2000  | 107.5 | 107.8 | 105.5 | 103.9 | 100.5 | 101.6 | 103.1 | 106.1 | 111.5 | 114.0 | 121.0 | 116.1 | 111.9 | 154.1 |
| 2500  | 107.2 | 107.7 | 107.3 | 107.5 | 104.4 | 103.3 | 104.2 | 106.3 | 111.2 | 114.7 | 120.0 | 114.8 | 109.6 | 153.7 |
| 3150  | 103.0 | 105.6 | 105.9 | 106.6 | 107.0 | 107.3 | 104.9 | 106.1 | 111.2 | 113.3 | 117.6 | 113.2 | 108.0 | 152.4 |
| 4000  | 100.7 | 103.3 | 103.4 | 104.6 | 105.0 | 107.7 | 106.6 | 106.5 | 111.1 | 112.5 | 116.5 | 111.8 | 106.8 | 151.7 |
| 5000  | 98.8  | 102.0 | 102.3 | 103.2 | 102.5 | 105.5 | 107.1 | 106.9 | 110.9 | 111.8 | 114.9 | 110.4 | 105.4 | 150.8 |
| 6300  | 97.0  | 100.5 | 100.8 | 102.4 | 102.5 | 104.2 | 105.7 | 107.7 | 109.9 | 110.3 | 113.6 | 109.4 | 104.6 | 150.0 |
| 8000  | 94.8  | 99.9  | 99.9  | 100.4 | 101.3 | 103.8 | 105.0 | 106.6 | 109.6 | 109.3 | 111.7 | 107.4 | 103.8 | 149.2 |
| 10000 | 94.2  | 98.8  | 99.3  | 100.3 | 101.5 | 103.2 | 105.0 | 105.9 | 108.4 | 107.8 | 111.2 | 106.6 | 103.3 | 149.0 |
| 12500 | 92.5  | 97.2  | 98.6  | 99.2  | 100.0 | 102.0 | 102.5 | 103.5 | 107.9 | 105.7 | 109.3 | 105.0 | 101.2 | 148.2 |
| 16000 | 89.7  | 95.7  | 96.4  | 98.6  | 98.9  | 99.7  | 101.0 | 101.4 | 105.0 | 103.5 | 107.0 | 104.2 | 98.9  | 147.5 |
| 20000 | 86.6  | 92.2  | 94.0  | 96.0  | 96.0  | 98.8  | 98.9  | 96.8  | 102.2 | 100.4 | 104.3 | 101.0 | 96.3  | 146.6 |
| 25000 | 83.6  | 90.1  | 91.9  | 93.0  | 93.6  | 96.4  | 96.8  | 95.4  | 99.1  | 96.6  | 99.9  | 98.1  | 93.1  | 145.8 |
| 31500 | 80.1  | 85.5  | 88.1  | 89.3  | 90.1  | 92.7  | 92.7  | 96.1  | 94.0  | 94.0  | 97.0  | 94.8  | 89.3  | 145.7 |
| 40000 | 75.6  | 81.6  | 85.9  | 84.7  | 85.6  | 89.5  | 88.5  | 88.1  | 92.4  | 90.9  | 93.2  | 91.5  | 83.3  | 146.0 |
| 50000 | 69.0  | 76.2  | 83.3  | 78.7  | 80.1  | 83.4  | 82.6  | 82.4  | 86.9  | 84.9  | 88.4  | 86.9  | 78.0  | 145.0 |
| 63000 | 63.2  | 70.3  | 81.8  | 73.3  | 75.1  | 78.4  | 77.2  | 77.6  | 81.2  | 80.7  | 84.3  | 83.2  | 72.2  | 146.0 |
| 80000 | 56.5  | 63.0  | 80.2  | 66.3  | 68.5  | 72.1  | 71.0  | 70.4  | 74.9  | 74.7  | 79.0  | 78.2  | 65.4  | 147.9 |
| CASPL | 113.2 | 115.0 | 114.4 | 114.8 | 114.2 | 115.8 | 116.4 | 117.5 | 122.2 | 125.2 | 130.7 | 129.1 | 126.3 | 165.4 |
| PNL   | 126.7 | 128.3 | 127.8 | 128.3 | 128.2 | 129.5 | 129.5 | 130.2 | 134.9 | 137.5 | 142.7 | 139.7 | 135.9 |       |
| PNLT  | 126.7 | 128.3 | 127.8 | 129.4 | 129.2 | 129.5 | 129.5 | 130.7 | 134.9 | 137.5 | 142.7 | 139.7 | 135.9 |       |
| DBA   | 178.9 | 185.6 | 200.9 | 188.8 | 190.7 | 194.2 | 193.1 | 192.8 | 197.1 | 196.6 | 200.7 | 199.7 | 187.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH398 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 44.90 PAMB HG = 29.28 RELHUM = 69.9 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.4 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2362.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0613 TAPE = X0613F TEST PT NO = 0613 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0613 X06131

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 66.3 | 71.1 | 72.7  | 74.2  | 74.7  | 77.2  | 79.2  | 79.9  | 85.4  | 91.9  | 95.3  | 93.7  | 89.1 | 169.4 |
| 63    | 67.3 | 72.6 | 73.4  | 75.4  | 76.2  | 79.4  | 80.2  | 81.7  | 86.9  | 93.7  | 97.0  | 94.7  | 88.5 | 170.6 |
| 80    | 68.7 | 73.7 | 74.8  | 76.3  | 76.8  | 80.1  | 81.6  | 82.8  | 88.3  | 95.3  | 98.4  | 95.4  | 89.4 | 171.8 |
| 100   | 72.9 | 74.7 | 76.6  | 77.8  | 78.1  | 80.8  | 82.8  | 84.3  | 90.3  | 95.3  | 99.1  | 96.1  | 89.8 | 172.6 |
| 125   | 77.4 | 82.0 | 80.9  | 81.4  | 80.4  | 82.7  | 83.7  | 84.9  | 90.2  | 94.6  | 98.7  | 96.3  | 89.7 | 172.6 |
| 160   | 76.1 | 83.5 | 83.9  | 85.3  | 84.5  | 85.7  | 85.2  | 85.7  | 91.9  | 93.4  | 98.6  | 96.0  | 87.1 | 172.6 |
| 200   | 81.1 | 83.1 | 82.2  | 82.6  | 82.2  | 84.5  | 86.2  | 86.8  | 92.9  | 93.1  | 99.6  | 94.8  | 85.8 | 172.9 |
| 250   | 85.2 | 87.2 | 86.0  | 85.2  | 82.2  | 83.5  | 84.8  | 87.4  | 92.0  | 93.4  | 98.7  | 91.2  | 83.0 | 172.2 |
| 315   | 84.4 | 86.7 | 87.5  | 88.6  | 85.9  | 84.9  | 85.7  | 87.4  | 91.4  | 93.7  | 97.2  | 89.4  | 79.9 | 171.8 |
| 400   | 79.8 | 84.2 | 85.8  | 87.4  | 88.2  | 88.6  | 86.1  | 86.9  | 91.1  | 91.9  | 94.3  | 87.1  | 77.3 | 170.5 |
| 500   | 77.0 | 81.6 | 83.0  | 85.0  | 86.0  | 88.8  | 87.6  | 86.9  | 90.7  | 90.8  | 92.8  | 85.1  | 75.2 | 169.8 |
| 630   | 74.6 | 79.8 | 81.6  | 83.4  | 83.2  | 86.3  | 87.8  | 87.1  | 90.2  | 89.7  | 90.6  | 83.0  | 72.7 | 168.9 |
| 800   | 72.2 | 78.0 | 79.8  | 82.3  | 82.9  | 84.8  | 86.1  | 87.5  | 88.9  | 87.8  | 88.9  | 81.3  | 70.7 | 168.1 |
| 1000  | 69.6 | 77.0 | 78.7  | 80.1  | 81.6  | 84.3  | 85.3  | 86.4  | 88.4  | 86.4  | 86.5  | 78.7  | 68.8 | 167.3 |
| 1250  | 68.5 | 75.6 | 77.8  | 79.9  | 81.6  | 83.5  | 85.1  | 85.5  | 86.9  | 84.7  | 85.5  | 77.3  | 66.9 | 167.1 |
| 1600  | 66.0 | 73.5 | 76.6  | 78.4  | 79.9  | 82.0  | 82.4  | 82.7  | 86.0  | 81.9  | 82.7  | 74.1  | 62.4 | 166.3 |
| 2000  | 62.2 | 71.3 | 74.0  | 77.6  | 78.6  | 79.6  | 80.7  | 80.4  | 82.7  | 79.1  | 79.5  | 71.6  | 57.1 | 165.6 |
| 2500  | 57.3 | 66.6 | 70.8  | 74.3  | 75.1  | 78.2  | 78.0  | 77.1  | 79.0  | 74.8  | 75.0  | 65.6  | 49.6 | 164.8 |
| 3150  | 51.0 | 62.1 | 66.8  | 69.7  | 71.3  | 74.5  | 74.6  | 72.1  | 74.0  | 68.6  | 67.2  | 57.8  | 37.9 | 164.0 |
| 4000  | 41.2 | 52.8 | 59.2  | 62.7  | 64.8  | 67.9  | 67.4  | 66.2  | 67.2  | 61.3  | 58.1  | 45.5  | 19.7 | 163.8 |
| 5000  | 27.0 | 41.3 | 50.7  | 52.7  | 55.3  | 59.8  | 58.3  | 56.1  | 57.3  | 50.6  | 44.6  | 28.6  |      | 164.1 |
| 6300  | 2.5  | 21.6 | 36.1  | 36.0  | 39.8  | 43.9  | 42.3  | 39.7  | 39.7  | 30.3  | 21.9  |       |      | 163.2 |
| 8000  |      |      | 13.2  | 11.3  | 16.6  | 21.1  | 18.7  | 15.6  | 12.7  | 1.3   |       |       |      | 164.2 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |       |      | 166.1 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| DASPL | 90.3 | 93.7 | 94.2  | 95.4  | 95.1  | 96.8  | 97.2  | 97.9  | 102.1 | 104.4 | 108.3 | 104.4 | 97.5 | 183.3 |
| PNL   | 94.5 | 98.9 | 100.3 | 101.8 | 102.3 | 104.0 | 104.2 | 104.4 | 107.5 | 108.2 | 111.2 | 105.7 | 97.0 |       |
| PNLT  | 95.7 | 98.9 | 100.3 | 102.4 | 102.8 | 104.0 | 104.2 | 104.4 | 108.4 | 109.3 | 112.3 | 105.7 | 97.0 |       |
| DBA   | 83.7 | 88.0 | 89.3  | 91.1  | 91.6  | 93.5  | 94.0  | 94.4  | 97.2  | 96.6  | 99.1  | 92.4  | 83.4 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|          |   |              |           |   |          |            |   |              |            |   |            |                |   |            |        |   |          |
|----------|---|--------------|-----------|---|----------|------------|---|--------------|------------|---|------------|----------------|---|------------|--------|---|----------|
| VEHICL   | = | ADH398       | TEST DATE | = | 11-29-82 | LOCAT      | = | C41 ANECH CH | CONFIG     | = | 6          | MODEL          | = | 6          | FLTVEL | = | 0. FPS   |
| IAPLHA   | = | SB59         | IEGA      | = | NO       | PWL AREA   | = | FULL SPHERE  | TAMB F     | = | 44.90      | PAMB HG        | = | 29.28      | RELHUM | = | 69.9 PCT |
| WIND DIR | = | DEG          | WIND VEL  | = | MPH      | EXT DIST   | = | 2400.0 FT    | EXT CONFIG | = | SL         | MIKE HT        | = |            | NBFR   | = |          |
| FNINI    | = | LBS          | XNL       | = | RPM      | XNH        | = | RPM          | V8         | = | 1687.4 FPS | AE8            | = | 3.4 SQ IN  |        |   |          |
| FNRAMB   | = | LBS          | XNLR      | = | RPM      | XNHR       | = | RPM          | V18        | = | 2362.4 FPS | AE18           | = | 18.0 SQ IN |        |   |          |
| RUNPT    | = | 82F-ZER-0613 | TAPE      | = | X06131   | TEST PT NO | = | 0613         | NC         | = | AE074      | CORR FAN SPEED | = |            | RPM    |   |          |

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0614 X0614C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.9  | 87.2  | 82.2  | 82.7  | 81.6  | 82.2  | 84.1  | 83.5  | 87.9  | 89.0  | 91.4  | 92.3  | 99.7  | 130.9 |
| 63    | 88.0  | 89.8  | 88.6  | 88.4  | 86.9  | 88.8  | 92.7  | 85.6  | 94.8  | 96.1  | 94.5  | 96.0  | 99.9  | 134.7 |
| 80    | 89.0  | 93.8  | 88.3  | 90.4  | 89.7  | 91.8  | 92.7  | 90.6  | 93.3  | 93.4  | 94.5  | 97.0  | 101.6 | 135.4 |
| 100   | 87.0  | 92.7  | 87.8  | 89.5  | 90.6  | 91.8  | 92.9  | 93.5  | 94.3  | 94.6  | 97.0  | 101.1 | 104.3 | 137.1 |
| 125   | 85.6  | 87.7  | 88.9  | 91.0  | 90.6  | 91.9  | 92.1  | 91.2  | 92.7  | 95.3  | 102.4 | 104.6 | 107.2 | 139.4 |
| 160   | 83.7  | 82.7  | 86.5  | 86.3  | 85.6  | 87.7  | 89.1  | 88.0  | 92.2  | 96.1  | 102.9 | 105.6 | 109.5 | 140.4 |
| 200   | 85.3  | 85.6  | 83.8  | 84.4  | 86.7  | 88.6  | 90.2  | 91.1  | 96.1  | 97.4  | 102.8 | 107.7 | 109.9 | 141.3 |
| 250   | 82.0  | 85.6  | 85.3  | 86.9  | 87.5  | 89.1  | 91.0  | 93.6  | 96.6  | 101.9 | 108.0 | 111.5 | 111.6 | 144.6 |
| 315   | 83.6  | 85.6  | 85.4  | 87.2  | 87.8  | 89.9  | 92.3  | 93.7  | 98.6  | 104.0 | 110.1 | 112.3 | 112.2 | 145.7 |
| 400   | 84.6  | 86.1  | 86.9  | 87.2  | 88.0  | 90.1  | 92.5  | 93.7  | 100.4 | 107.7 | 113.3 | 114.0 | 110.2 | 147.5 |
| 500   | 85.3  | 87.9  | 87.9  | 88.9  | 89.5  | 92.1  | 93.5  | 95.4  | 101.7 | 109.7 | 114.6 | 113.8 | 107.4 | 148.2 |
| 630   | 86.0  | 88.1  | 88.6  | 90.4  | 90.5  | 93.1  | 95.2  | 97.4  | 103.3 | 111.9 | 116.3 | 113.2 | 104.4 | 149.3 |
| 800   | 88.1  | 88.4  | 89.6  | 91.2  | 91.0  | 94.1  | 96.0  | 98.4  | 105.4 | 112.0 | 116.3 | 112.3 | 101.4 | 149.3 |
| 1000  | 91.5  | 91.0  | 91.6  | 93.1  | 92.7  | 96.1  | 97.2  | 99.9  | 106.1 | 111.6 | 115.8 | 110.2 | 99.4  | 148.7 |
| 1250  | 92.7  | 95.7  | 93.7  | 93.9  | 93.9  | 96.5  | 98.1  | 100.5 | 107.2 | 110.8 | 114.9 | 106.9 | 98.1  | 148.0 |
| 1600  | 102.6 | 101.7 | 97.1  | 96.5  | 95.3  | 97.6  | 99.5  | 102.3 | 108.4 | 110.7 | 115.1 | 106.5 | 98.5  | 148.5 |
| 2000  | 104.0 | 104.8 | 103.7 | 102.9 | 97.2  | 97.8  | 99.3  | 102.6 | 108.2 | 111.2 | 114.0 | 105.1 | 98.4  | 148.6 |
| 2500  | 102.1 | 104.2 | 103.8 | 105.5 | 103.4 | 101.5 | 100.4 | 103.5 | 107.4 | 111.7 | 114.2 | 104.8 | 98.0  | 149.1 |
| 3150  | 98.0  | 99.8  | 100.3 | 103.1 | 104.4 | 106.0 | 102.6 | 103.8 | 107.9 | 111.2 | 112.5 | 104.9 | 97.9  | 148.5 |
| 4000  | 96.9  | 98.2  | 97.1  | 99.5  | 100.7 | 104.4 | 104.3 | 104.6 | 108.2 | 109.7 | 111.9 | 104.7 | 97.5  | 147.8 |
| 5000  | 95.2  | 96.6  | 96.2  | 99.1  | 98.9  | 101.6 | 104.2 | 105.0 | 108.0 | 110.4 | 110.7 | 103.3 | 96.0  | 147.5 |
| 6300  | 94.0  | 95.5  | 93.6  | 98.0  | 98.3  | 101.2 | 102.5 | 105.2 | 108.0 | 108.6 | 108.9 | 101.7 | 95.4  | 146.6 |
| 8000  | 94.0  | 95.5  | 92.6  | 96.8  | 97.2  | 100.0 | 102.0 | 104.6 | 107.6 | 107.4 | 107.1 | 99.4  | 94.3  | 146.0 |
| 10000 | 94.6  | 95.6  | 92.3  | 96.9  | 97.3  | 99.6  | 101.6 | 103.3 | 106.7 | 105.3 | 105.7 | 99.7  | 94.2  | 145.5 |
| 12500 | 94.8  | 96.4  | 93.0  | 96.4  | 95.8  | 98.5  | 99.6  | 101.0 | 105.1 | 103.8 | 103.5 | 97.5  | 93.3  | 144.7 |
| 16000 | 92.3  | 95.9  | 92.1  | 97.4  | 95.7  | 96.2  | 98.5  | 99.1  | 103.0 | 101.1 | 101.5 | 96.5  | 91.5  | 144.3 |
| 20000 | 89.1  | 92.4  | 90.0  | 95.5  | 94.2  | 96.3  | 96.3  | 96.2  | 100.4 | 98.6  | 98.8  | 94.4  | 88.8  | 143.8 |
| 25000 | 85.1  | 88.9  | 88.1  | 92.7  | 92.0  | 94.9  | 95.0  | 94.1  | 97.6  | 94.7  | 94.6  | 92.3  | 87.5  | 143.6 |
| 31500 | 82.1  | 85.3  | 85.6  | 89.2  | 88.4  | 92.0  | 91.5  | 90.9  | 94.9  | 92.3  | 92.0  | 88.9  | 83.9  | 143.7 |
| 40000 | 77.7  | 80.9  | 86.4  | 85.0  | 85.0  | 88.4  | 87.7  | 87.9  | 91.5  | 88.8  | 88.2  | 85.4  | 78.8  | 144.3 |
| 50000 | 72.1  | 75.8  | 86.9  | 79.5  | 80.0  | 83.8  | 82.9  | 82.5  | 86.3  | 83.1  | 82.4  | 80.9  | 73.4  | 144.3 |
| 63000 | 66.8  | 71.6  | 87.4  | 74.4  | 75.9  | 78.6  | 77.5  | 78.2  | 81.6  | 80.1  | 77.7  | 76.1  | 67.4  | 146.7 |
| 80000 | 60.3  | 66.3  | 86.1  | 68.0  | 69.2  | 72.9  | 70.9  | 70.9  | 74.3  | 76.2  | 72.9  | 70.2  | 58.7  | 150.4 |

GASPL 109.9 111.1 109.9 111.6 110.9 112.7 113.2 114.9 119.2 122.4 125.8 122.3 119.4 161.5  
PNL 122.6 124.3 123.4 125.2 125.0 126.7 126.5 127.7 131.9 135.0 137.5 131.7 127.1  
PNLT 124.0 124.3 123.4 125.7 125.0 127.8 126.5 127.7 131.9 135.0 137.5 131.7 127.1  
DBA 110.3 111.3 110.2 111.7 110.9 112.5 112.7 114.5 118.9 122.2 125.3 119.9 113.6

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH414 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 60.20 PAMB HG = 29.42 RELHUM = 68.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1693.3 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2387.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0614 TAPE = X0614C TEST PT NO = 0614 NC = AE075 CORR FAN SPEED = RPM

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60-58113



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT ARC

IDENTIFICATION - 82F-400-0614 X0614F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 89.7  | 91.8  | 90.2  | 90.1  | 89.0  | 89.1  | 89.1  | 90.0  | 95.2  | 99.6  | 105.2 | 107.8 | 109.6 | 141.9 |
| 315   | 89.7  | 91.8  | 90.2  | 90.1  | 89.6  | 90.1  | 90.9  | 90.9  | 97.9  | 104.3 | 109.5 | 111.0 | 109.6 | 144.6 |
| 400   | 91.2  | 92.0  | 90.3  | 90.6  | 89.8  | 90.4  | 91.7  | 91.6  | 100.1 | 107.7 | 112.6 | 113.2 | 110.4 | 147.1 |
| 500   | 91.5  | 92.0  | 91.5  | 90.4  | 91.4  | 92.5  | 92.8  | 93.8  | 101.5 | 109.7 | 114.4 | 113.4 | 109.4 | 148.1 |
| 630   | 93.0  | 94.3  | 92.9  | 92.4  | 92.4  | 93.5  | 94.3  | 95.3  | 103.9 | 110.2 | 115.1 | 113.8 | 109.2 | 148.7 |
| 800   | 93.7  | 94.5  | 93.6  | 93.9  | 93.1  | 94.7  | 95.2  | 96.4  | 105.0 | 110.3 | 115.2 | 113.1 | 109.7 | 148.8 |
| 1000  | 95.8  | 94.8  | 94.7  | 94.8  | 94.7  | 96.7  | 96.5  | 97.9  | 106.1 | 109.4 | 114.2 | 109.6 | 108.4 | 147.6 |
| 1250  | 98.2  | 96.9  | 96.3  | 96.5  | 95.6  | 97.3  | 97.5  | 98.6  | 107.5 | 109.6 | 114.6 | 109.5 | 109.1 | 148.2 |
| 1600  | 97.7  | 100.1 | 97.3  | 96.6  | 97.3  | 98.7  | 99.1  | 100.6 | 107.6 | 110.4 | 113.9 | 108.4 | 109.3 | 148.1 |
| 2000  | 110.0 | 108.0 | 102.0 | 100.0 | 99.4  | 99.1  | 99.2  | 101.2 | 107.2 | 111.2 | 114.4 | 108.4 | 109.2 | 149.5 |
| 2500  | 111.1 | 110.7 | 108.4 | 106.2 | 105.8 | 103.1 | 100.6 | 102.5 | 108.3 | 111.4 | 113.4 | 109.4 | 110.0 | 150.8 |
| 3150  | 107.0 | 108.5 | 107.5 | 108.5 | 107.7 | 108.0 | 103.3 | 103.3 | 109.3 | 110.5 | 113.3 | 109.6 | 109.8 | 150.8 |
| 4000  | 105.6 | 106.4 | 105.9 | 107.5 | 105.0 | 107.0 | 105.5 | 104.7 | 108.9 | 110.9 | 111.7 | 107.6 | 107.8 | 150.0 |
| 5000  | 107.2 | 107.2 | 104.6 | 105.3 | 102.9 | 104.6 | 105.7 | 105.1 | 109.0 | 109.3 | 110.1 | 106.3 | 107.5 | 149.3 |
| 6300  | 102.6 | 103.3 | 102.0 | 103.9 | 102.3 | 104.2 | 104.1 | 105.4 | 109.0 | 108.4 | 108.7 | 104.3 | 106.8 | 148.2 |
| 8000  | 101.3 | 102.1 | 99.3  | 102.6 | 101.3 | 103.0 | 103.8 | 105.0 | 108.8 | 107.1 | 108.2 | 105.6 | 107.6 | 148.0 |
| 10000 | 101.2 | 101.9 | 98.1  | 101.4 | 101.4 | 102.6 | 103.7 | 104.1 | 107.8 | 106.3 | 106.6 | 104.1 | 107.2 | 147.8 |
| 12500 | 101.4 | 101.7 | 97.6  | 101.2 | 99.8  | 101.5 | 101.8 | 102.1 | 106.5 | 104.4 | 105.4 | 103.8 | 106.1 | 147.4 |
| 16000 | 101.0 | 102.0 | 97.7  | 100.1 | 99.7  | 99.2  | 100.8 | 100.4 | 104.5 | 102.5 | 103.4 | 102.4 | 104.0 | 147.3 |
| 20000 | 98.2  | 101.1 | 96.4  | 100.7 | 98.3  | 99.3  | 98.7  | 97.6  | 102.5 | 99.1  | 99.1  | 99.6  | 101.6 | 147.2 |
| 25000 | 94.4  | 96.9  | 93.7  | 98.2  | 96.6  | 97.9  | 97.2  | 95.5  | 100.9 | 98.1  | 98.2  | 98.1  | 100.0 | 147.6 |
| 31500 | 92.4  | 94.9  | 92.8  | 95.8  | 93.0  | 95.0  | 94.0  | 92.7  | 98.1  | 95.3  | 95.3  | 95.9  | 96.5  | 148.1 |
| 40000 | 88.6  | 90.6  | 89.4  | 91.4  | 89.6  | 91.4  | 90.1  | 89.5  | 93.5  | 90.2  | 90.2  | 92.0  | 91.6  | 147.9 |
| 50000 | 83.8  | 85.8  | 89.8  | 86.9  | 84.0  | 86.8  | 85.4  | 84.2  | 89.0  | 87.3  | 85.6  | 87.5  | 86.3  | 148.2 |
| 63000 | 74.5  | 77.4  | 87.7  | 79.3  | 80.0  | 81.6  | 79.8  | 79.4  | 82.2  | 83.8  | 80.9  | 81.6  | 77.7  | 148.6 |
| 80000 | 69.7  | 73.3  | 87.5  | 73.0  | 73.3  | 75.9  | 72.9  | 71.5  | 72.4  | 74.0  | 71.1  | 71.8  | 67.9  | 151.8 |
| OASPL | 116.8 | 116.9 | 114.5 | 115.3 | 114.0 | 114.8 | 114.2 | 114.5 | 119.7 | 121.8 | 125.1 | 122.6 | 121.6 | 162.6 |
| PNL   | 129.8 | 129.8 | 127.6 | 128.4 | 127.4 | 128.0 | 126.6 | 126.7 | 131.9 | 134.0 | 136.7 | 133.3 | 133.3 |       |
| PNLT  | 132.8 | 129.8 | 128.8 | 128.4 | 127.4 | 128.0 | 126.6 | 126.7 | 131.9 | 134.0 | 136.7 | 133.3 | 133.3 |       |
| DBA   | 191.9 | 195.1 | 208.0 | 195.5 | 195.5 | 197.8 | 195.3 | 194.2 | 196.6 | 197.5 | 194.8 | 195.7 | 192.7 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                  |                      |                        |                |                  |                   |
|------------------|----------------------|------------------------|----------------|------------------|-------------------|
| VEHICLE = ADH414 | TEST DATE = 11-30-82 | LOCAT = C41 ANECH CH   | CONFIG = 6     | MODEL = 6        | FLTVEL = 400. FPS |
| IAPLHA = SB59    | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 60.20 | PAMB HG = 29.42  | RELHUM = 68.5 PCT |
| WIND DIR =       | DEG WIND VEL =       | MPH EXT DIST =         | 40.0 FT        | EXT CONFIG = ARC | MIKE HT =         |
| FNIN1 =          | LBS XNL =            | RPM XNH =              | RPM            | V8 = 1693.3 FPS  | AE8 = 3.4 SQ IN   |
| FNRAMB =         | LBS XNLR =           | RPM XNHR =             | RPM            | V18 = 2387.0 FPS | AE18 = 18.0 SQ IN |

RUNPT = 82F-400-0614 TAPE = X0614F TEST PT NO = 0614 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0614 X06141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 69.9  | 72.2  | 71.6  | 72.6  | 72.2  | 72.9  | 74.1  | 73.6  | 81.4  | 88.0  | 91.3  | 89.7  | 83.5 | 165.2 |
| 63    | 70.1  | 72.2  | 72.8  | 72.4  | 73.8  | 75.0  | 75.2  | 75.8  | 82.8  | 89.9  | 93.0  | 89.9  | 82.5 | 166.2 |
| 80    | 71.6  | 74.5  | 74.1  | 74.4  | 74.8  | 76.0  | 76.7  | 77.2  | 85.1  | 90.3  | 93.7  | 90.2  | 82.2 | 166.9 |
| 100   | 72.3  | 74.6  | 74.8  | 75.8  | 75.4  | 77.1  | 77.5  | 78.3  | 86.1  | 90.5  | 93.7  | 89.4  | 82.5 | 166.9 |
| 125   | 74.2  | 74.8  | 75.8  | 76.6  | 77.0  | 79.1  | 78.7  | 79.7  | 87.2  | 89.4  | 92.6  | 85.7  | 81.0 | 165.8 |
| 160   | 76.5  | 76.7  | 77.2  | 78.2  | 77.8  | 79.5  | 79.6  | 80.3  | 88.5  | 89.5  | 92.9  | 85.4  | 81.3 | 166.3 |
| 200   | 75.7  | 79.7  | 78.1  | 78.1  | 79.3  | 80.8  | 81.1  | 82.2  | 88.4  | 90.1  | 91.9  | 84.0  | 81.0 | 166.3 |
| 250   | 87.6  | 87.3  | 82.6  | 81.3  | 81.2  | 81.0  | 80.9  | 82.5  | 87.7  | 90.6  | 92.0  | 83.5  | 80.4 | 167.6 |
| 315   | 88.3  | 89.8  | 88.6  | 87.2  | 87.3  | 84.8  | 82.1  | 83.5  | 88.5  | 90.5  | 90.7  | 84.0  | 80.3 | 168.9 |
| 400   | 83.7  | 87.2  | 87.4  | 89.3  | 88.9  | 89.4  | 84.5  | 84.0  | 89.2  | 89.1  | 90.1  | 83.5  | 79.1 | 169.0 |
| 500   | 81.8  | 84.7  | 85.5  | 87.9  | 85.9  | 88.1  | 86.5  | 85.1  | 88.5  | 89.1  | 88.0  | 80.9  | 76.1 | 168.1 |
| 630   | 83.0  | 85.1  | 83.8  | 85.5  | 83.8  | 85.4  | 86.4  | 85.3  | 88.3  | 87.1  | 85.9  | 78.9  | 74.8 | 167.4 |
| 800   | 77.9  | 80.7  | 80.9  | 83.8  | 82.7  | 84.8  | 84.5  | 85.2  | 87.9  | 85.9  | 84.0  | 76.2  | 72.9 | 166.4 |
| 1000  | 76.2  | 79.3  | 78.0  | 82.4  | 81.6  | 83.5  | 84.1  | 84.7  | 87.5  | 84.3  | 83.1  | 76.9  | 72.6 | 166.2 |
| 1250  | 75.5  | 78.8  | 76.6  | 80.9  | 81.5  | 82.9  | 83.8  | 83.6  | 86.3  | 83.1  | 81.0  | 74.5  | 70.7 | 165.9 |
| 1600  | 74.9  | 77.9  | 75.6  | 80.4  | 79.6  | 81.6  | 81.6  | 81.3  | 84.5  | 80.7  | 78.9  | 72.9  | 67.3 | 165.5 |
| 2000  | 73.5  | 77.6  | 75.3  | 79.1  | 79.4  | 79.1  | 80.5  | 79.4  | 82.2  | 78.1  | 75.9  | 69.8  | 62.1 | 165.5 |
| 2500  | 68.9  | 75.5  | 73.2  | 79.0  | 77.4  | 78.6  | 77.8  | 75.9  | 79.3  | 73.5  | 69.8  | 64.2  | 54.9 | 165.3 |
| 3150  | 61.8  | 68.9  | 68.6  | 74.9  | 74.4  | 76.0  | 75.0  | 72.3  | 75.8  | 70.1  | 65.6  | 57.7  | 44.8 | 165.7 |
| 4000  | 53.5  | 62.2  | 63.9  | 69.2  | 67.8  | 70.2  | 68.8  | 66.2  | 69.2  | 62.5  | 56.4  | 46.7  | 26.9 | 166.2 |
| 5000  | 40.0  | 50.2  | 54.3  | 59.5  | 59.4  | 61.7  | 59.9  | 57.5  | 58.4  | 49.9  | 41.5  | 29.0  | 0.1  | 166.0 |
| 6300  | 17.4  | 31.2  | 42.6  | 44.1  | 43.7  | 47.2  | 45.1  | 41.4  | 41.8  | 32.8  | 19.2  | 0.4   |      | 166.3 |
| 8000  |       | 19.1  | 17.3  | 21.6  | 24.3  | 21.4  | 17.5  | 13.7  | 4.4   |       |       |       |      | 166.8 |
| 10000 |       |       |       |       |       |       |       |       |       |       |       |       |      | 169.9 |
| 12500 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 93.4  | 95.2  | 94.2  | 95.6  | 94.9  | 95.8  | 94.8  | 94.8  | 99.4  | 100.8 | 102.8 | 97.7  | 91.9 | 180.7 |
| PNL   | 99.1  | 101.7 | 100.7 | 103.1 | 102.6 | 103.6 | 102.8 | 102.2 | 106.1 | 105.4 | 105.7 | 99.3  | 94.1 |       |
| PNLT  | 100.7 | 101.7 | 101.4 | 103.7 | 102.6 | 103.6 | 102.8 | 102.2 | 106.8 | 106.1 | 105.7 | 100.5 | 94.1 |       |
| DBA   | 88.6  | 91.1  | 90.2  | 92.7  | 91.9  | 93.2  | 92.8  | 92.4  | 95.7  | 94.3  | 93.8  | 86.9  | 82.7 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH414 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 60.20 PAMB HG = 29.42 RELHUM = 68.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1693.3 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2387.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0614 TAPE = X06141 TEST PT NO = 0614 NC = AE075 CORR FAN SPEED = RPM

 ORIGINAL PAGE IS  
OF POOR QUALITY

401

80-88112

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0619 X0619C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.1  | 85.4  | 83.2  | 83.5  | 84.8  | 86.2  | 84.1  | 88.0  | 88.9  | 88.5  | 95.6  | 96.6  | 96.2  | 131.8 |
| 63    | 88.5  | 92.0  | 88.1  | 89.1  | 91.7  | 94.3  | 90.7  | 93.6  | 94.6  | 95.9  | 103.3 | 103.5 | 102.4 | 138.6 |
| 80    | 90.5  | 95.3  | 89.6  | 91.9  | 91.7  | 94.3  | 95.2  | 92.6  | 95.3  | 95.2  | 98.0  | 99.7  | 101.1 | 137.2 |
| 100   | 88.7  | 95.2  | 90.5  | 93.3  | 93.1  | 94.8  | 95.6  | 96.0  | 97.8  | 97.1  | 99.7  | 103.4 | 105.8 | 139.5 |
| 125   | 85.1  | 88.9  | 91.2  | 93.2  | 92.8  | 94.4  | 94.8  | 93.7  | 96.2  | 98.5  | 105.9 | 107.3 | 109.0 | 142.0 |
| 160   | 84.4  | 85.7  | 89.2  | 89.3  | 89.1  | 92.0  | 93.9  | 92.3  | 96.2  | 99.6  | 106.4 | 108.4 | 112.0 | 143.3 |
| 200   | 88.3  | 88.6  | 88.3  | 90.9  | 92.0  | 94.3  | 95.2  | 95.9  | 100.8 | 102.4 | 108.8 | 111.7 | 113.6 | 145.7 |
| 250   | 86.8  | 91.3  | 91.3  | 92.4  | 91.7  | 93.8  | 97.2  | 98.4  | 101.3 | 107.4 | 113.8 | 115.7 | 115.9 | 149.3 |
| 315   | 87.1  | 90.9  | 89.6  | 92.2  | 93.3  | 96.1  | 97.3  | 98.7  | 103.9 | 109.2 | 115.6 | 116.5 | 116.9 | 150.6 |
| 400   | 88.8  | 91.6  | 91.9  | 93.2  | 93.0  | 95.4  | 97.7  | 99.2  | 104.9 | 112.9 | 118.6 | 118.0 | 117.4 | 152.6 |
| 500   | 90.1  | 93.9  | 92.9  | 93.9  | 94.8  | 97.4  | 98.8  | 100.7 | 106.6 | 114.5 | 119.8 | 118.5 | 117.2 | 153.6 |
| 630   | 91.5  | 94.8  | 94.3  | 95.6  | 95.5  | 98.1  | 100.2 | 101.9 | 107.8 | 116.4 | 121.3 | 119.5 | 118.1 | 154.9 |
| 800   | 94.8  | 95.9  | 96.4  | 96.9  | 97.0  | 99.4  | 101.5 | 102.9 | 110.4 | 116.2 | 122.1 | 120.3 | 118.2 | 155.5 |
| 1000  | 99.5  | 103.0 | 100.8 | 100.6 | 98.9  | 100.6 | 101.9 | 104.1 | 110.6 | 115.9 | 122.5 | 119.9 | 117.3 | 155.6 |
| 1250  | 99.9  | 105.2 | 103.7 | 103.6 | 103.1 | 104.2 | 103.3 | 105.5 | 112.2 | 114.8 | 122.7 | 119.3 | 115.6 | 155.6 |
| 1600  | 106.8 | 106.5 | 103.9 | 102.5 | 101.8 | 103.1 | 104.7 | 106.3 | 113.4 | 115.2 | 123.6 | 118.0 | 113.5 | 156.0 |
| 2000  | 108.8 | 109.3 | 107.5 | 106.6 | 102.2 | 102.6 | 104.6 | 107.1 | 112.7 | 115.5 | 122.5 | 115.4 | 111.6 | 155.3 |
| 2500  | 107.4 | 108.7 | 108.0 | 108.8 | 106.6 | 105.3 | 105.2 | 107.1 | 112.2 | 116.2 | 120.7 | 113.5 | 110.1 | 154.5 |
| 3150  | 103.3 | 106.3 | 106.4 | 107.1 | 107.5 | 108.8 | 106.4 | 107.1 | 112.5 | 114.8 | 118.6 | 112.2 | 108.7 | 153.3 |
| 4000  | 102.2 | 104.3 | 104.4 | 105.1 | 105.3 | 108.0 | 108.6 | 107.9 | 112.1 | 114.3 | 117.5 | 111.3 | 107.3 | 152.7 |
| 5000  | 99.8  | 102.9 | 103.3 | 104.5 | 103.5 | 106.0 | 108.3 | 108.2 | 111.9 | 113.3 | 116.4 | 109.1 | 105.9 | 151.9 |
| 6300  | 97.9  | 101.5 | 101.8 | 103.4 | 103.0 | 105.4 | 106.2 | 108.6 | 111.4 | 111.6 | 114.8 | 108.3 | 105.1 | 151.0 |
| 8000  | 95.8  | 100.6 | 100.9 | 101.4 | 102.5 | 104.3 | 105.8 | 107.6 | 110.6 | 110.2 | 113.2 | 106.4 | 103.5 | 150.1 |
| 10000 | 94.7  | 99.0  | 100.0 | 101.6 | 102.4 | 104.4 | 105.7 | 106.7 | 109.4 | 109.3 | 112.4 | 105.6 | 103.1 | 149.9 |
| 12500 | 92.2  | 97.0  | 98.5  | 100.2 | 100.7 | 103.2 | 104.0 | 104.2 | 108.6 | 107.9 | 110.8 | 104.0 | 101.7 | 149.3 |
| 16000 | 90.0  | 95.7  | 96.6  | 98.6  | 99.2  | 101.1 | 102.7 | 102.4 | 106.3 | 105.7 | 109.0 | 102.4 | 98.9  | 148.7 |
| 20000 | 86.9  | 92.7  | 94.8  | 96.3  | 96.1  | 99.6  | 100.4 | 99.8  | 103.5 | 102.7 | 106.4 | 99.2  | 96.6  | 147.9 |
| 25000 | 84.2  | 90.2  | 92.5  | 93.3  | 94.2  | 96.7  | 97.9  | 96.7  | 100.5 | 99.8  | 101.0 | 96.2  | 93.4  | 146.9 |
| 31500 | 80.2  | 86.2  | 88.5  | 90.2  | 91.0  | 93.6  | 93.6  | 93.9  | 97.5  | 97.3  | 97.5  | 93.2  | 89.7  | 146.8 |
| 40000 | 75.9  | 81.7  | 86.9  | 85.0  | 86.8  | 90.0  | 89.5  | 89.6  | 93.7  | 94.7  | 93.8  | 90.6  | 84.3  | 147.2 |
| 50000 | 69.8  | 76.1  | 84.2  | 79.8  | 80.7  | 84.8  | 83.4  | 84.0  | 88.8  | 88.8  | 88.5  | 85.0  | 79.3  | 146.3 |
| 63000 | 63.8  | 70.5  | 82.5  | 74.2  | 76.0  | 79.8  | 78.3  | 79.5  | 83.5  | 84.0  | 84.3  | 80.3  | 72.8  | 147.1 |
| 80000 | 56.9  | 63.5  | 80.3  | 67.3  | 69.2  | 73.3  | 71.2  | 73.1  | 77.7  | 80.0  | 80.0  | 74.9  | 65.1  | 149.2 |

GASPL 114.4 116.2 115.4 115.9 115.2 116.8 117.5 118.5 123.3 126.6 132.3 129.1 127.4 166.6  
PNL 127.4 129.4 128.8 129.4 129.0 130.5 130.9 131.4 136.0 139.0 143.9 139.1 136.4  
PNLT 127.4 129.4 128.8 129.4 129.0 130.5 130.9 131.4 136.0 139.0 143.9 139.1 136.4  
DBA 115.2 116.8 115.8 116.2 115.2 116.5 117.0 118.2 123.2 126.3 132.2 128.0 125.4

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADR399 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.30 RELHUM = 69.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1703.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2432.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0619 TAPE = X0619C TEST PT NO = 0619 NC = AE074 CORR FAN SPEED = RPM

ORIGINAL PAGE IS  
OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0619 X0619F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 70    | 85.1  | 85.4  | 83.2  | 83.5  | 84.8  | 86.2  | 84.1  | 88.0  | 88.9  | 88.5  | 95.6  | 96.6  | 96.2  | 131.8 |
| 63    | 88.5  | 92.0  | 88.1  | 89.1  | 91.7  | 94.3  | 90.7  | 93.6  | 94.6  | 95.9  | 103.3 | 103.5 | 102.4 | 138.6 |
| 80    | 90.5  | 95.3  | 89.6  | 91.9  | 91.7  | 94.3  | 95.2  | 92.6  | 95.3  | 95.2  | 98.0  | 99.7  | 101.1 | 137.2 |
| 100   | 88.7  | 95.2  | 90.5  | 93.3  | 93.1  | 94.8  | 95.6  | 96.0  | 97.8  | 97.1  | 99.7  | 103.4 | 105.8 | 139.5 |
| 125   | 85.1  | 88.9  | 91.2  | 93.2  | 92.8  | 94.4  | 94.8  | 93.7  | 96.2  | 98.5  | 105.9 | 107.3 | 109.0 | 142.0 |
| 160   | 84.4  | 85.7  | 89.2  | 89.3  | 89.1  | 92.0  | 93.9  | 92.3  | 96.2  | 99.6  | 106.4 | 108.4 | 112.0 | 143.3 |
| 200   | 88.3  | 88.6  | 88.3  | 90.9  | 92.0  | 94.3  | 95.2  | 95.9  | 100.8 | 102.4 | 108.8 | 111.7 | 113.6 | 145.7 |
| 250   | 86.8  | 91.3  | 91.3  | 92.4  | 91.7  | 93.8  | 97.2  | 98.4  | 101.3 | 107.4 | 113.8 | 115.7 | 115.9 | 149.3 |
| 315   | 87.1  | 90.9  | 89.6  | 92.2  | 93.3  | 96.1  | 97.3  | 98.7  | 103.9 | 109.2 | 115.6 | 116.5 | 116.9 | 150.6 |
| 400   | 88.8  | 91.6  | 91.9  | 93.2  | 93.0  | 95.4  | 97.7  | 99.2  | 104.9 | 112.9 | 118.6 | 118.0 | 117.4 | 152.6 |
| 500   | 90.1  | 93.9  | 92.9  | 93.9  | 94.8  | 97.4  | 98.8  | 100.7 | 106.6 | 114.5 | 119.8 | 118.5 | 117.2 | 153.6 |
| 630   | 91.5  | 94.8  | 94.3  | 95.6  | 95.5  | 98.1  | 100.2 | 101.9 | 107.8 | 116.4 | 121.3 | 119.5 | 118.1 | 154.9 |
| 800   | 94.8  | 95.9  | 96.4  | 96.9  | 97.0  | 99.4  | 101.5 | 102.9 | 110.4 | 116.2 | 122.1 | 120.3 | 118.2 | 155.5 |
| 1000  | 99.5  | 103.0 | 100.8 | 100.6 | 98.9  | 100.6 | 101.9 | 104.1 | 110.6 | 115.9 | 122.5 | 119.9 | 117.3 | 155.6 |
| 1250  | 99.9  | 105.2 | 103.7 | 103.6 | 103.1 | 104.2 | 103.3 | 105.5 | 112.2 | 114.8 | 122.7 | 119.3 | 115.6 | 155.6 |
| 1600  | 106.8 | 106.5 | 103.9 | 102.5 | 101.8 | 103.1 | 104.7 | 106.3 | 113.4 | 115.2 | 123.6 | 118.0 | 113.5 | 156.0 |
| 2000  | 108.8 | 109.3 | 107.5 | 106.6 | 102.2 | 102.6 | 104.6 | 107.1 | 112.7 | 115.5 | 122.5 | 115.4 | 111.6 | 155.3 |
| 2500  | 107.4 | 108.7 | 108.0 | 108.8 | 106.6 | 105.3 | 105.2 | 107.1 | 112.2 | 116.2 | 120.7 | 113.5 | 110.1 | 154.5 |
| 3150  | 103.3 | 106.3 | 106.4 | 107.1 | 107.5 | 108.8 | 106.4 | 107.1 | 112.5 | 114.8 | 118.6 | 112.2 | 108.7 | 153.3 |
| 4000  | 102.2 | 104.3 | 104.4 | 105.1 | 105.3 | 108.0 | 108.6 | 107.9 | 112.1 | 114.3 | 117.5 | 111.3 | 107.3 | 152.7 |
| 5000  | 99.8  | 102.9 | 103.3 | 104.5 | 103.5 | 106.0 | 108.3 | 108.2 | 111.9 | 113.3 | 116.4 | 109.1 | 105.9 | 151.9 |
| 6300  | 97.9  | 101.5 | 101.8 | 103.4 | 103.0 | 105.4 | 106.2 | 108.6 | 111.4 | 111.6 | 114.8 | 108.3 | 105.1 | 151.0 |
| 8000  | 95.8  | 100.6 | 100.9 | 101.4 | 102.5 | 104.3 | 105.8 | 107.6 | 110.6 | 110.2 | 113.2 | 106.4 | 103.5 | 150.1 |
| 10000 | 94.7  | 99.0  | 100.0 | 101.6 | 102.4 | 104.4 | 105.7 | 106.7 | 109.4 | 109.3 | 112.4 | 105.6 | 103.1 | 149.9 |
| 12500 | 92.2  | 97.0  | 98.5  | 100.2 | 100.7 | 103.2 | 104.0 | 104.2 | 108.6 | 107.9 | 110.8 | 104.0 | 101.7 | 149.3 |
| 16000 | 90.0  | 95.7  | 96.6  | 98.6  | 99.2  | 101.1 | 102.7 | 102.4 | 106.3 | 105.7 | 109.0 | 102.4 | 98.9  | 148.7 |
| 20000 | 88.9  | 92.7  | 94.8  | 96.3  | 96.1  | 99.6  | 100.4 | 99.8  | 103.5 | 102.7 | 106.4 | 99.2  | 96.6  | 147.9 |
| 25000 | 84.2  | 90.2  | 92.5  | 93.3  | 94.2  | 96.7  | 97.9  | 96.7  | 100.5 | 99.8  | 101.0 | 96.2  | 93.4  | 146.9 |
| 31500 | 80.2  | 86.2  | 88.5  | 90.2  | 91.0  | 93.6  | 93.6  | 93.9  | 97.5  | 97.3  | 97.5  | 93.2  | 89.7  | 146.8 |
| 40000 | 75.9  | 81.7  | 86.9  | 85.0  | 86.8  | 90.0  | 89.5  | 89.6  | 93.7  | 94.7  | 93.8  | 90.6  | 84.3  | 147.2 |
| 50000 | 69.8  | 76.1  | 84.2  | 79.8  | 80.7  | 84.8  | 83.4  | 84.0  | 88.8  | 88.8  | 88.5  | 85.0  | 79.3  | 146.3 |
| 63000 | 63.8  | 70.5  | 82.5  | 74.2  | 76.0  | 79.8  | 78.3  | 79.5  | 83.5  | 84.0  | 84.3  | 80.3  | 72.8  | 147.1 |
| 80000 | 56.9  | 63.5  | 80.3  | 67.3  | 69.2  | 73.3  | 71.2  | 73.1  | 77.7  | 80.0  | 80.0  | 74.9  | 65.1  | 149.2 |

ORIGINAL PAGE #  
OF FOUR QUALITY

CASPL 114.4 116.2 115.4 115.9 115.2 116.8 117.5 118.5 123.3 126.6 132.3 129.1 127.4 166.6  
 PNL 127.4 129.4 128.8 129.4 129.0 130.5 130.9 131.4 136.0 139.0 143.9 139.1 136.4  
 PNLT 127.4 129.4 128.8 129.4 129.0 130.5 130.9 131.4 136.0 139.0 143.9 139.1 136.4  
 DBA 179.5 186.0 201.0 189.7 191.5 195.4 193.7 195.2 199.6 201.3 201.4 196.6 188.1

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH399 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.30 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
 FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1703.9 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2432.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0619 TAPE = X0619F TEST PT NO = 0619 NC = AEO74 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0619 X06191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 67.5 | 71.8 | 73.2  | 75.2  | 75.4  | 77.9  | 80.2  | 81.2  | 86.2  | 93.2  | 97.3  | 94.5  | 90.6 | 170.8 |
| 63    | 68.8 | 74.1 | 74.2  | 75.9  | 77.2  | 79.9  | 81.2  | 82.7  | 87.9  | 94.7  | 98.5  | 95.0  | 90.3 | 171.7 |
| 80    | 70.2 | 75.0 | 75.6  | 77.6  | 77.8  | 80.6  | 82.6  | 83.8  | 89.1  | 96.6  | 99.9  | 95.9  | 91.1 | 173.0 |
| 100   | 73.4 | 76.0 | 77.6  | 78.8  | 79.3  | 81.9  | 83.8  | 84.8  | 91.6  | 96.3  | 100.6 | 96.6  | 91.0 | 173.7 |
| 125   | 77.9 | 83.0 | 81.9  | 82.4  | 81.2  | 82.9  | 84.2  | 85.9  | 91.7  | 95.9  | 100.9 | 96.1  | 90.0 | 173.8 |
| 160   | 78.1 | 85.0 | 84.7  | 85.3  | 85.2  | 86.5  | 85.5  | 87.2  | 93.2  | 94.6  | 100.9 | 95.2  | 87.9 | 173.7 |
| 200   | 84.8 | 86.1 | 84.7  | 84.1  | 83.7  | 85.3  | 86.7  | 87.8  | 94.2  | 94.9  | 101.6 | 93.6  | 85.3 | 174.2 |
| 250   | 86.4 | 88.7 | 88.0  | 87.9  | 84.0  | 84.5  | 86.3  | 88.4  | 93.3  | 94.9  | 100.2 | 90.5  | 82.7 | 173.5 |
| 315   | 84.6 | 87.7 | 88.3  | 89.8  | 88.2  | 86.9  | 86.7  | 88.1  | 92.4  | 95.2  | 98.0  | 88.1  | 80.4 | 172.6 |
| 400   | 80.0 | 85.0 | 86.3  | 87.9  | 88.7  | 90.1  | 87.6  | 87.9  | 92.4  | 93.4  | 95.3  | 86.1  | 78.0 | 171.4 |
| 500   | 78.5 | 82.5 | 84.0  | 85.5  | 86.2  | 89.1  | 89.6  | 88.4  | 91.6  | 92.5  | 93.8  | 84.6  | 75.7 | 170.8 |
| 630   | 75.6 | 80.8 | 82.6  | 84.6  | 84.2  | 86.8  | 89.0  | 88.3  | 91.2  | 91.1  | 92.1  | 81.7  | 73.2 | 170.0 |
| 800   | 73.2 | 79.0 | 80.7  | 83.3  | 83.4  | 86.0  | 86.6  | 88.5  | 90.3  | 89.0  | 90.1  | 80.2  | 71.2 | 169.1 |
| 1000  | 70.6 | 77.8 | 79.6  | 81.1  | 82.8  | 84.8  | 86.0  | 87.3  | 89.3  | 87.4  | 88.0  | 77.6  | 68.5 | 168.3 |
| 1250  | 69.0 | 75.8 | 78.5  | 81.1  | 82.6  | 84.8  | 85.8  | 86.2  | 87.8  | 86.1  | 86.7  | 76.0  | 66.6 | 168.1 |
| 1600  | 65.7 | 73.2 | 76.6  | 79.4  | 80.6  | 83.3  | 83.9  | 83.4  | 86.7  | 84.1  | 84.2  | 73.0  | 62.9 | 167.4 |
| 2000  | 62.5 | 71.3 | 74.3  | 77.6  | 78.9  | 81.1  | 82.4  | 81.3  | 83.9  | 81.4  | 81.5  | 69.9  | 57.1 | 166.8 |
| 2500  | 57.6 | 67.1 | 71.6  | 74.6  | 75.2  | 79.0  | 79.5  | 78.1  | 80.3  | 77.1  | 77.1  | 63.9  | 49.9 | 166.0 |
| 3150  | 51.6 | 62.2 | 67.4  | 70.1  | 71.9  | 74.8  | 75.7  | 73.5  | 75.4  | 71.7  | 68.3  | 55.9  | 38.3 | 165.0 |
| 4000  | 41.3 | 53.5 | 59.6  | 63.7  | 65.8  | 68.8  | 68.4  | 67.4  | 68.6  | 64.5  | 58.6  | 43.9  | 20.1 | 165.0 |
| 5000  | 27.2 | 41.4 | 51.8  | 53.0  | 56.6  | 60.3  | 59.3  | 57.6  | 58.6  | 54.4  | 45.1  | 27.6  |      | 165.4 |
| 6300  | 3.3  | 21.5 | 37.0  | 37.1  | 40.4  | 45.3  | 43.1  | 41.3  | 41.6  | 34.3  | 22.1  |       |      | 164.4 |
| 8000  |      |      | 14.0  | 12.2  | 17.6  | 22.5  | 19.9  | 17.5  | 14.9  | 4.6   |       |       |      | 165.2 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |       |      | 167.3 |
| 2500  |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 6000  |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 91.6 | 95.1 | 95.3  | 96.5  | 96.1  | 97.7  | 98.3  | 98.9  | 103.3 | 105.8 | 110.0 | 104.3 | 98.6 | 184.4 |
| PNL   | 95.7 | 99.9 | 101.2 | 102.9 | 103.1 | 105.0 | 105.5 | 105.4 | 108.9 | 109.8 | 112.9 | 104.8 | 97.5 |       |
| PNLT  | 96.7 | 99.9 | 101.2 | 102.9 | 103.1 | 105.0 | 105.5 | 105.4 | 109.4 | 110.9 | 113.9 | 104.8 | 97.5 |       |
| DBA   | 84.6 | 88.9 | 90.2  | 92.0  | 92.4  | 94.5  | 95.2  | 95.4  | 98.3  | 98.1  | 100.4 | 91.6  | 83.7 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH399 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.30 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1703.9 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2432.4 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0619 TAPE = X06191 TEST PT NO = 0619 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0620 X0620C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.6  | 87.7  | 83.4  | 83.7  | 84.3  | 83.7  | 84.1  | 86.0  | 88.9  | 88.2  | 92.6  | 93.8  | 100.2 | 131.8 |
| 63    | 90.5  | 92.5  | 89.6  | 88.4  | 90.4  | 90.1  | 90.9  | 91.4  | 94.6  | 94.1  | 95.5  | 96.0  | 100.6 | 135.1 |
| 80    | 90.5  | 95.3  | 88.8  | 91.1  | 91.0  | 93.1  | 93.5  | 89.9  | 94.1  | 94.4  | 96.3  | 98.0  | 101.9 | 136.3 |
| 100   | 88.5  | 93.5  | 88.8  | 90.5  | 91.4  | 92.8  | 93.6  | 92.5  | 94.8  | 95.6  | 97.7  | 102.1 | 105.3 | 138.0 |
| 125   | 86.4  | 88.7  | 89.7  | 92.2  | 92.1  | 93.2  | 92.8  | 91.0  | 93.7  | 96.3  | 103.1 | 105.8 | 108.0 | 140.3 |
| 160   | 84.2  | 83.7  | 87.2  | 87.0  | 86.4  | 88.5  | 90.4  | 88.3  | 93.7  | 96.8  | 103.7 | 106.6 | 110.8 | 141.4 |
| 200   | 85.8  | 86.3  | 84.1  | 86.4  | 87.2  | 89.8  | 91.5  | 91.9  | 97.3  | 98.4  | 103.8 | 108.7 | 111.1 | 142.4 |
| 250   | 83.0  | 86.8  | 86.1  | 87.6  | 88.2  | 89.8  | 92.2  | 93.9  | 97.6  | 102.7 | 109.0 | 112.0 | 112.9 | 145.4 |
| 315   | 84.6  | 87.1  | 86.1  | 87.9  | 88.5  | 91.1  | 93.3  | 93.9  | 99.9  | 105.0 | 111.3 | 113.3 | 113.4 | 146.9 |
| 400   | 85.6  | 86.9  | 87.6  | 88.4  | 89.3  | 91.1  | 93.5  | 93.9  | 101.1 | 108.4 | 114.6 | 115.3 | 112.2 | 148.8 |
| 500   | 86.1  | 88.1  | 88.4  | 89.9  | 90.5  | 93.1  | 94.0  | 95.9  | 102.1 | 110.7 | 116.1 | 115.3 | 109.2 | 149.6 |
| 630   | 86.5  | 89.1  | 89.6  | 90.9  | 91.2  | 94.1  | 96.0  | 98.1  | 103.8 | 113.2 | 117.5 | 115.2 | 106.1 | 150.7 |
| 800   | 89.6  | 89.1  | 90.4  | 91.7  | 92.3  | 95.4  | 97.0  | 98.9  | 106.6 | 113.0 | 117.8 | 113.3 | 102.9 | 150.5 |
| 1000  | 93.0  | 93.5  | 92.8  | 94.1  | 93.4  | 96.3  | 97.7  | 100.6 | 106.8 | 113.1 | 117.5 | 112.2 | 101.6 | 150.3 |
| 1250  | 98.9  | 100.7 | 95.7  | 96.4  | 95.8  | 98.2  | 98.8  | 101.5 | 108.5 | 112.0 | 116.7 | 109.9 | 100.6 | 149.7 |
| 1600  | 106.3 | 106.5 | 103.1 | 101.0 | 97.5  | 99.4  | 100.7 | 102.0 | 109.9 | 112.7 | 117.1 | 109.0 | 101.0 | 150.7 |
| 2000  | 106.0 | 107.8 | 107.2 | 107.1 | 101.9 | 100.3 | 101.0 | 103.6 | 109.2 | 113.2 | 116.3 | 107.6 | 100.6 | 150.9 |
| 2500  | 103.1 | 104.9 | 105.0 | 107.5 | 106.9 | 106.0 | 102.9 | 104.0 | 109.4 | 114.2 | 116.2 | 106.8 | 100.3 | 151.2 |
| 3150  | 101.7 | 102.3 | 101.3 | 104.1 | 104.9 | 109.0 | 105.6 | 104.8 | 109.9 | 113.2 | 114.8 | 106.4 | 99.9  | 150.6 |
| 4000  | 100.2 | 102.0 | 101.1 | 102.3 | 101.5 | 105.7 | 107.6 | 106.1 | 110.3 | 112.4 | 113.9 | 105.3 | 98.5  | 150.0 |
| 5000  | 98.7  | 100.1 | 99.2  | 102.1 | 101.4 | 103.1 | 106.0 | 107.1 | 110.3 | 112.2 | 111.7 | 103.8 | 97.8  | 149.2 |
| 6300  | 98.3  | 98.8  | 97.1  | 101.2 | 101.0 | 104.2 | 104.5 | 106.7 | 110.2 | 110.1 | 109.9 | 102.4 | 96.4  | 148.4 |
| 8000  | 96.3  | 98.8  | 96.1  | 99.6  | 99.5  | 102.3 | 104.3 | 106.1 | 109.8 | 109.7 | 108.9 | 100.4 | 95.5  | 148.1 |
| 10000 | 96.1  | 97.4  | 94.9  | 99.7  | 100.4 | 102.6 | 103.9 | 105.1 | 108.2 | 108.1 | 107.5 | 100.2 | 95.0  | 147.6 |
| 12500 | 94.1  | 96.0  | 93.8  | 98.2  | 99.3  | 101.3 | 102.1 | 102.5 | 107.2 | 106.6 | 105.0 | 99.3  | 94.1  | 146.8 |
| 16000 | 92.6  | 95.5  | 92.1  | 97.9  | 97.5  | 99.5  | 101.6 | 100.9 | 105.0 | 103.9 | 103.0 | 97.5  | 92.8  | 146.3 |
| 20000 | 89.7  | 92.2  | 89.8  | 95.3  | 94.8  | 98.1  | 98.9  | 98.8  | 102.4 | 101.4 | 100.4 | 95.0  | 89.9  | 145.6 |
| 25000 | 86.4  | 89.9  | 88.2  | 92.7  | 93.1  | 96.2  | 97.1  | 95.6  | 99.7  | 97.5  | 96.9  | 92.9  | 88.1  | 145.3 |
| 31500 | 82.6  | 86.0  | 85.6  | 89.7  | 89.7  | 92.5  | 92.8  | 92.6  | 96.8  | 95.0  | 93.7  | 89.1  | 84.6  | 145.2 |
| 40000 | 78.3  | 82.0  | 86.0  | 85.1  | 85.9  | 89.5  | 89.1  | 89.0  | 93.3  | 92.1  | 90.0  | 86.0  | 79.4  | 145.8 |
| 50000 | 71.8  | 76.4  | 85.8  | 79.4  | 80.2  | 84.2  | 83.9  | 83.8  | 88.2  | 86.9  | 84.0  | 81.6  | 74.3  | 145.3 |
| 63000 | 66.7  | 71.2  | 86.7  | 74.1  | 76.1  | 79.8  | 78.0  | 78.6  | 83.2  | 82.8  | 80.1  | 76.3  | 67.4  | 147.2 |
| 80000 | 59.8  | 66.2  | 86.2  | 67.7  | 69.6  | 73.4  | 71.4  | 71.5  | 76.6  | 76.7  | 75.8  | 70.2  | 59.7  | 150.8 |

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GASPL 112.4 113.8 112.4 114.0 113.0 115.1 115.4 116.1 120.9 124.2 127.4 123.8 120.8 163.1  
PNL 124.9 126.5 125.5 127.4 126.7 129.3 128.9 129.0 133.6 136.8 139.3 133.2 128.6  
PNLT 126.2 126.5 126.5 128.0 127.9 130.3 128.9 129.0 133.6 136.8 139.3 133.2 128.6  
DBA 113.0 114.2 113.0 114.3 113.1 115.1 114.9 115.7 120.6 124.1 127.1 121.5 115.3

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH413 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 58.30 PAMB HG = 29.47 RELHUM = 69.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1703.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2445.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0620 TAPE = X0620C TEST PT NO = 0620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0620 X0620F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 90.3  | 92.8  | 90.7  | 90.8  | 89.7  | 89.8  | 90.3  | 90.3  | 96.4  | 100.6 | 106.5 | 108.8 | 110.8 | 143.0 |
| 315   | 90.3  | 92.8  | 90.7  | 90.7  | 90.3  | 91.3  | 91.9  | 91.1  | 97.9  | 104.4 | 110.1 | 111.6 | 111.0 | 145.3 |
| 400   | 92.0  | 93.4  | 91.0  | 91.3  | 91.0  | 91.4  | 92.3  | 91.2  | 100.5 | 108.6 | 114.0 | 114.5 | 111.9 | 148.3 |
| 500   | 92.7  | 92.9  | 92.4  | 91.7  | 92.4  | 93.5  | 93.3  | 94.3  | 102.1 | 111.1 | 115.8 | 115.6 | 111.2 | 149.7 |
| 630   | 93.3  | 94.5  | 93.4  | 93.4  | 93.2  | 94.5  | 95.1  | 96.1  | 105.1 | 111.2 | 116.5 | 114.8 | 110.7 | 150.0 |
| 800   | 94.2  | 95.5  | 94.6  | 94.4  | 94.3  | 95.9  | 96.2  | 96.9  | 105.8 | 112.0 | 117.1 | 115.2 | 112.0 | 150.6 |
| 1000  | 97.3  | 95.6  | 95.5  | 95.3  | 95.2  | 97.0  | 97.0  | 98.7  | 107.5 | 110.9 | 116.2 | 112.9 | 111.1 | 149.7 |
| 1250  | 98.4  | 98.3  | 96.7  | 97.0  | 97.6  | 99.0  | 98.3  | 99.7  | 109.1 | 111.7 | 116.8 | 112.2 | 111.8 | 150.3 |
| 1600  | 105.7 | 106.3 | 100.0 | 99.3  | 99.6  | 100.4 | 100.3 | 100.4 | 108.7 | 112.5 | 116.2 | 111.0 | 111.6 | 150.5 |
| 2000  | 113.8 | 112.8 | 108.1 | 104.5 | 104.8 | 101.6 | 100.9 | 102.2 | 109.2 | 113.7 | 116.4 | 110.4 | 111.5 | 152.4 |
| 2500  | 116.2 | 116.3 | 113.9 | 111.8 | 109.7 | 107.6 | 103.1 | 103.0 | 111.3 | 113.4 | 115.6 | 110.8 | 111.9 | 154.5 |
| 3150  | 110.1 | 111.1 | 110.2 | 111.5 | 108.2 | 111.0 | 106.3 | 104.3 | 111.1 | 112.9 | 114.9 | 109.5 | 110.3 | 152.9 |
| 4000  | 109.3 | 108.9 | 106.9 | 108.5 | 105.2 | 108.2 | 108.7 | 106.1 | 111.1 | 112.6 | 112.6 | 107.9 | 109.4 | 151.8 |
| 5000  | 107.7 | 108.7 | 106.8 | 106.9 | 105.4 | 106.1 | 107.4 | 107.1 | 111.4 | 110.9 | 111.2 | 107.0 | 108.6 | 150.9 |
| 6300  | 106.1 | 106.8 | 105.0 | 106.9 | 105.1 | 107.2 | 106.4 | 107.1 | 111.1 | 110.5 | 110.2 | 104.9 | 107.5 | 150.5 |
| 8000  | 105.6 | 105.4 | 102.8 | 105.9 | 103.6 | 105.3 | 106.1 | 106.4 | 110.0 | 109.6 | 109.6 | 105.7 | 108.1 | 150.0 |
| 10000 | 103.4 | 105.2 | 101.6 | 104.1 | 104.4 | 105.6 | 105.9 | 105.7 | 109.5 | 108.6 | 107.7 | 105.4 | 107.7 | 149.8 |
| 12500 | 103.0 | 103.5 | 100.1 | 104.0 | 103.4 | 104.3 | 104.2 | 103.4 | 108.4 | 107.1 | 106.9 | 104.8 | 107.5 | 149.5 |
| 16000 | 100.4 | 101.6 | 98.5  | 102.0 | 101.6 | 102.5 | 103.8 | 102.1 | 106.2 | 104.9 | 104.6 | 102.7 | 105.0 | 148.9 |
| 20000 | 98.5  | 100.7 | 96.4  | 101.3 | 99.4  | 101.1 | 101.2 | 100.0 | 104.9 | 102.6 | 102.7 | 101.9 | 104.2 | 149.1 |
| 25000 | 97.8  | 99.0  | 95.2  | 99.1  | 97.7  | 99.5  | 99.5  | 97.4  | 102.4 | 100.4 | 99.8  | 98.6  | 101.3 | 149.2 |
| 31500 | 93.7  | 96.0  | 92.8  | 95.8  | 94.3  | 95.5  | 95.1  | 94.1  | 99.2  | 97.7  | 96.3  | 95.8  | 96.8  | 149.0 |
| 40000 | 89.1  | 91.3  | 89.4  | 91.9  | 90.5  | 92.5  | 91.3  | 90.1  | 94.6  | 93.0  | 90.8  | 91.9  | 92.1  | 148.8 |
| 50000 | 84.4  | 86.8  | 89.4  | 86.9  | 84.4  | 87.2  | 86.1  | 85.0  | 89.8  | 89.1  | 86.8  | 86.5  | 85.4  | 148.7 |
| 63000 | 74.8  | 78.7  | 87.1  | 79.5  | 80.0  | 82.8  | 80.0  | 79.3  | 84.1  | 83.7  | 83.1  | 80.5  | 76.9  | 148.9 |
| 80000 | 66.4  | 70.5  | 85.4  | 72.0  | 73.8  | 76.4  | 73.0  | 71.7  | 74.3  | 73.9  | 73.3  | 70.7  | 67.1  | 150.4 |
| GASPL | 120.4 | 120.6 | 118.0 | 118.1 | 116.3 | 117.3 | 116.5 | 115.9 | 121.5 | 123.7 | 126.9 | 124.2 | 123.2 | 164.3 |
| PNL   | 133.9 | 134.1 | 131.7 | 131.1 | 129.1 | 130.6 | 129.1 | 127.9 | 133.6 | 135.9 | 138.3 | 134.3 | 134.7 |       |
| PNLT  | 135.3 | 135.6 | 133.3 | 132.4 | 130.1 | 131.6 | 129.1 | 127.9 | 133.6 | 135.9 | 138.3 | 134.3 | 134.7 |       |
| DBA   | 190.5 | 194.0 | 206.1 | 195.0 | 195.8 | 198.4 | 195.6 | 194.4 | 198.2 | 197.7 | 196.8 | 194.7 | 192.0 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                  |                      |                        |                      |                   |                   |
|------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH413 | TEST DATE = 11-30-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 400. FPS |
| IAPLHA = SB59    | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 58.30       | PAMB HG = 29.47   | RELHUM = 69.5 PCT |
| WIND DIR =       | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =          | LBS XNL =            | RPM XNH =              | RPM V8 = 1703.8 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRMB =          | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2445.7 FPS | AE18 = 18.0 SQ IN |                   |

RUNPT = 82F-400-0620 TAPE = X0620F TEST PT NO = 0620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 38 2400.0 FT. SL

IDENTIFICATION - 82F-400-0620 X06201

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                         |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
|-------------------------------------------------------------------------------------------------------------------------|----------|-------|-------|-------|-----------|------------|-------|-------|-------|------------|----------------|-------|------|-------|
|                                                                                                                         | 40.      | 50.   | 60.   | 70.   | 80.       | 90.        | 100.  | 110.  | 120.  | 130.       | 140.           | 150.  | 160. | PWL   |
| FREQ                                                                                                                    |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 50                                                                                                                      | 70.7     | 73.6  | 72.3  | 73.3  | 73.5      | 73.9       | 74.7  | 73.3  | 81.9  | 88.9       | 92.7           | 91.0  | 85.0 | 166.5 |
| 63                                                                                                                      | 71.4     | 73.1  | 73.7  | 73.7  | 74.8      | 76.0       | 75.7  | 76.3  | 83.4  | 91.3       | 94.4           | 92.0  | 84.3 | 167.8 |
| 80                                                                                                                      | 72.4     | 74.7  | 74.6  | 75.4  | 75.6      | 77.0       | 77.5  | 78.1  | 86.4  | 91.3       | 95.2           | 91.2  | 83.7 | 168.1 |
| 100                                                                                                                     | 72.8     | 75.6  | 75.8  | 76.3  | 76.7      | 78.4       | 78.5  | 78.8  | 87.0  | 92.1       | 95.6           | 91.5  | 84.9 | 168.7 |
| 125                                                                                                                     | 75.7     | 75.6  | 76.6  | 77.1  | 77.5      | 79.3       | 79.3  | 80.6  | 88.6  | 90.9       | 94.7           | 89.0  | 83.8 | 167.8 |
| 160                                                                                                                     | 76.7     | 78.1  | 77.7  | 78.7  | 79.8      | 81.3       | 80.4  | 81.4  | 90.1  | 91.6       | 95.0           | 88.1  | 84.0 | 168.4 |
| 200                                                                                                                     | 83.7     | 86.0  | 80.8  | 80.8  | 81.6      | 82.5       | 82.3  | 82.0  | 89.5  | 92.2       | 94.2           | 86.6  | 83.4 | 168.6 |
| 250                                                                                                                     | 91.4     | 92.1  | 88.7  | 85.9  | 86.6      | 83.5       | 82.7  | 83.6  | 89.7  | 93.1       | 94.0           | 85.5  | 82.6 | 170.5 |
| 315                                                                                                                     | 93.4     | 95.4  | 94.2  | 92.9  | 91.2      | 89.3       | 84.6  | 84.0  | 90.5  | 92.4       | 92.9           | 85.4  | 82.2 | 172.7 |
| 400                                                                                                                     | 86.8     | 89.7  | 90.1  | 92.2  | 89.4      | 92.4       | 87.5  | 85.0  | 91.0  | 91.5       | 91.7           | 83.5  | 79.6 | 171.0 |
| 500                                                                                                                     | 85.6     | 87.2  | 86.5  | 88.9  | 86.1      | 89.3       | 89.7  | 86.5  | 90.7  | 90.8       | 88.9           | 81.2  | 77.7 | 169.8 |
| 630                                                                                                                     | 83.5     | 86.5  | 86.1  | 87.1  | 86.1      | 86.9       | 88.1  | 87.3  | 90.6  | 88.7       | 86.9           | 79.6  | 75.8 | 169.0 |
| 800                                                                                                                     | 81.4     | 84.2  | 93.9  | 86.8  | 85.5      | 87.8       | 86.8  | 86.9  | 90.0  | 87.9       | 85.4           | 76.8  | 73.6 | 168.6 |
| 1000                                                                                                                    | 80.4     | 82.5  | 81.5  | 85.6  | 83.8      | 85.8       | 86.3  | 86.1  | 88.8  | 86.7       | 84.4           | 76.9  | 73.1 | 168.1 |
| 1250                                                                                                                    | 77.8     | 82.0  | 80.1  | 83.7  | 84.5      | 85.9       | 86.0  | 85.2  | 88.0  | 85.5       | 82.0           | 75.8  | 71.3 | 167.9 |
| 1600                                                                                                                    | 76.4     | 79.7  | 78.2  | 83.2  | 83.2      | 84.4       | 84.1  | 82.6  | 86.4  | 83.3       | 80.3           | 73.9  | 68.6 | 167.6 |
| 2000                                                                                                                    | 72.9     | 77.2  | 76.2  | 80.9  | 81.2      | 82.4       | 83.5  | 81.1  | 83.9  | 80.6       | 77.1           | 70.1  | 63.2 | 167.1 |
| 2500                                                                                                                    | 69.2     | 75.1  | 73.2  | 79.6  | 78.5      | 80.5       | 80.3  | 78.3  | 81.7  | 77.0       | 73.4           | 66.5  | 57.5 | 167.2 |
| 3150                                                                                                                    | 65.1     | 71.0  | 70.1  | 75.9  | 75.4      | 77.2       | 77.3  | 74.1  | 77.3  | 72.4       | 67.2           | 58.2  | 46.2 | 167.4 |
| 4000                                                                                                                    | 54.8     | 63.2  | 63.9  | 69.3  | 69.0      | 70.7       | 69.9  | 67.6  | 70.3  | 64.9       | 57.4           | 46.5  | 27.2 | 167.1 |
| 5000                                                                                                                    | 40.4     | 51.0  | 54.2  | 60.0  | 60.2      | 62.8       | 61.1  | 58.1  | 59.4  | 52.7       | 42.2           | 28.9  | 0.6  | 166.9 |
| 6300                                                                                                                    | 17.9     | 32.3  | 42.2  | 44.2  | 44.1      | 47.6       | 45.8  | 42.3  | 42.6  | 34.5       | 20.4           |       |      | 166.8 |
| 8000                                                                                                                    |          |       | 18.5  | 17.5  | 21.5      | 25.5       | 21.6  | 17.3  | 15.6  | 4.4        |                |       |      | 167.1 |
| 10000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      | 168.6 |
| 2500                                                                                                                    |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 6000                                                                                                                    |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 20000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 25000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 31500                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 40000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 50000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 63000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| 80000                                                                                                                   |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| CASPL                                                                                                                   | 97.3     | 99.2  | 97.9  | 98.6  | 97.2      | 98.3       | 97.1  | 96.1  | 101.1 | 102.7      | 104.5          | 99.5  | 93.9 | 182.4 |
| PNL                                                                                                                     | 102.9    | 105.5 | 104.3 | 105.6 | 104.4     | 106.0      | 105.3 | 103.6 | 107.9 | 107.6      | 107.5          | 100.6 | 95.9 |       |
| P <sub>max</sub>                                                                                                        | 103.6    | 106.2 | 105.1 | 106.2 | 105.0     | 106.6      | 105.3 | 104.1 | 108.5 | 108.2      | 107.5          | 100.6 | 95.9 |       |
| DBA                                                                                                                     | 91.9     | 94.3  | 93.3  | 95.3  | 94.1      | 95.7       | 95.2  | 94.0  | 97.6  | 96.4       | 95.4           | 88.0  | 84.1 |       |
| MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9 |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                                             |          |       |       |       |           |            |       |       |       |            |                |       |      |       |
| VEHICL                                                                                                                  | = ADH413 |       |       |       | TEST DATE | = 11-30-82 |       |       |       | LOCAT      | = C41 ANECH CH |       |      |       |
| IAPLHA                                                                                                                  | = SB59   |       |       |       | IEGA      | = NO       |       |       |       | PWL AREA   | = FULL SPHERE  |       |      |       |
| WIND DIR                                                                                                                | =        |       |       |       | WIND VEL  | = MPH      |       |       |       | EXT DIST   | = 2400.0 FT    |       |      |       |
|                                                                                                                         |          |       |       |       |           |            |       |       |       | EXT CONFIG | = SL           |       |      |       |
| FNIN1                                                                                                                   | = LBS    |       |       |       | XNL       | = RPM      |       |       |       | XNH        | = RPM          |       |      |       |
| FNRAMB                                                                                                                  | = LBS    |       |       |       | XNLR      | = RPM      |       |       |       | XNHR       | = RPM          |       |      |       |
|                                                                                                                         |          |       |       |       |           |            |       |       |       | V8         | = 1703.8 FPS   |       |      |       |
|                                                                                                                         |          |       |       |       |           |            |       |       |       | V18        | = 2445.7 FPS   |       |      |       |
|                                                                                                                         |          |       |       |       |           |            |       |       |       | AE8        | = 3.4 SQ IN    |       |      |       |
|                                                                                                                         |          |       |       |       |           |            |       |       |       | AE18       | = 18.0 SQ IN   |       |      |       |
| RUNPT = 82F-400-0620 TAPE = X06201 TEST PT NO = 0620 NC = AE075 CORR FAN SPEED = RPM                                    |          |       |       |       |           |            |       |       |       |            |                |       |      |       |

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UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0625 X0625C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.1  | 86.4  | 85.4  | 87.5  | 88.1  | 87.4  | 90.1  | 87.5  | 90.2  | 88.7  | 96.6  | 97.1  | 97.0  | 133.1 |
| 63    | 95.5  | 91.8  | 89.1  | 93.9  | 95.5  | 95.3  | 96.0  | 91.6  | 97.1  | 96.1  | 103.5 | 103.5 | 102.9 | 139.8 |
| 80    | 91.5  | 96.1  | 90.8  | 93.4  | 92.7  | 95.1  | 96.0  | 93.6  | 96.3  | 95.4  | 99.0  | 100.7 | 102.4 | 138.1 |
| 100   | 90.2  | 96.5  | 91.8  | 94.3  | 94.9  | 96.5  | 97.4  | 98.0  | 98.8  | 99.3  | 101.0 | 105.1 | 107.1 | 141.1 |
| 125   | 86.4  | 89.4  | 91.9  | 94.7  | 94.3  | 95.7  | 96.3  | 95.0  | 97.2  | 99.8  | 107.4 | 108.8 | 110.0 | 143.3 |
| 160   | 86.2  | 87.2  | 90.2  | 90.8  | 90.1  | 93.0  | 97.1  | 93.3  | 97.5  | 100.8 | 107.9 | 110.4 | 113.8 | 145.0 |
| 200   | 89.5  | 89.3  | 89.3  | 92.1  | 92.7  | 95.3  | 97.0  | 97.1  | 102.1 | 103.1 | 109.8 | 113.2 | 115.1 | 147.1 |
| 250   | 88.0  | 91.8  | 92.1  | 93.6  | 93.2  | 95.3  | 98.0  | 99.6  | 102.8 | 108.6 | 114.5 | 116.7 | 116.9 | 150.3 |
| 315   | 89.6  | 92.6  | 91.1  | 93.2  | 94.5  | 97.1  | 98.5  | 99.9  | 105.4 | 110.2 | 116.6 | 118.0 | 118.2 | 151.8 |
| 400   | 90.8  | 92.6  | 93.4  | 94.4  | 94.2  | 97.1  | 99.0  | 100.4 | 106.9 | 114.4 | 119.8 | 120.0 | 118.2 | 154.1 |
| 500   | 91.6  | 94.4  | 94.1  | 95.7  | 96.3  | 98.1  | 100.3 | 101.7 | 108.4 | 116.0 | 121.1 | 120.0 | 117.9 | 154.9 |
| 630   | 92.8  | 95.6  | 95.3  | 96.9  | 96.7  | 99.1  | 101.7 | 102.6 | 109.6 | 117.7 | 122.8 | 121.0 | 119.1 | 156.3 |
| 800   | 96.3  | 96.9  | 97.1  | 98.2  | 97.8  | 100.4 | 102.8 | 104.7 | 111.9 | 117.7 | 123.3 | 121.5 | 118.4 | 156.8 |
| 1000  | 101.8 | 105.0 | 101.6 | 101.6 | 100.2 | 102.1 | 103.4 | 105.3 | 112.6 | 117.4 | 123.5 | 121.2 | 118.1 | 156.8 |
| 1250  | 104.7 | 108.2 | 106.0 | 105.6 | 104.3 | 104.5 | 105.3 | 106.8 | 113.2 | 116.5 | 124.4 | 120.1 | 116.4 | 157.1 |
| 1600  | 110.1 | 109.7 | 107.1 | 105.5 | 103.3 | 104.4 | 106.0 | 107.8 | 114.6 | 117.0 | 124.6 | 118.3 | 114.0 | 157.2 |
| 2000  | 110.3 | 110.3 | 109.0 | 110.1 | 106.2 | 104.8 | 106.1 | 108.1 | 113.7 | 117.5 | 123.5 | 115.9 | 112.6 | 156.6 |
| 2500  | 106.7 | 108.7 | 108.8 | 110.0 | 109.4 | 109.0 | 108.9 | 109.1 | 113.9 | 118.5 | 121.2 | 113.8 | 110.6 | 155.7 |
| 3150  | 104.8 | 107.1 | 107.1 | 107.9 | 108.7 | 111.3 | 109.2 | 108.9 | 114.0 | 117.0 | 119.6 | 112.5 | 108.7 | 154.7 |
| 4000  | 103.2 | 105.6 | 105.7 | 106.8 | 106.3 | 108.7 | 110.4 | 110.2 | 113.6 | 116.0 | 118.3 | 111.3 | 107.6 | 153.9 |
| 5000  | 101.3 | 104.2 | 104.6 | 106.0 | 105.5 | 107.2 | 109.3 | 110.2 | 113.2 | 115.3 | 116.4 | 109.4 | 105.9 | 150.9 |
| 6300  | 99.9  | 102.5 | 103.3 | 105.9 | 105.0 | 107.7 | 108.2 | 110.6 | 112.9 | 113.6 | 115.6 | 108.8 | 105.6 | 150.3 |
| 8000  | 98.5  | 101.6 | 102.4 | 103.9 | 104.3 | 106.6 | 107.8 | 109.6 | 112.4 | 112.2 | 113.4 | 106.9 | 104.0 | 151.6 |
| 10000 | 97.2  | 100.5 | 101.8 | 104.1 | 104.2 | 106.2 | 107.4 | 103.7 | 110.9 | 111.3 | 112.7 | 106.6 | 104.1 | 151.3 |
| 12500 | 94.7  | 98.7  | 100.5 | 102.7 | 102.5 | 105.5 | 105.8 | 106.0 | 109.9 | 109.4 | 111.5 | 105.2 | 102.2 | 150.7 |
| 16000 | 92.2  | 96.9  | 98.4  | 101.1 | 101.2 | 103.4 | 104.7 | 104.9 | 108.0 | 106.7 | 109.3 | 102.9 | 99.7  | 150.1 |
| 20000 | 89.4  | 93.5  | 96.3  | 98.3  | 98.3  | 101.6 | 102.4 | 102.1 | 105.2 | 104.7 | 107.4 | 101.0 | 96.1  | 149.5 |
| 25000 | 86.0  | 91.2  | 94.0  | 95.3  | 95.9  | 99.2  | 99.9  | 99.2  | 102.5 | 101.0 | 101.5 | 96.7  | 93.2  | 148.5 |
| 31500 | 81.5  | 87.2  | 90.3  | 92.0  | 92.0  | 95.4  | 95.6  | 95.9  | 99.3  | 99.0  | 98.5  | 94.0  | 89.5  | 148.4 |
| 40000 | 76.6  | 82.2  | 87.7  | 87.2  | 87.8  | 91.7  | 91.3  | 91.6  | 95.7  | 96.5  | 94.5  | 90.6  | 84.0  | 148.8 |
| 50000 | 70.8  | 76.6  | 83.9  | 81.3  | 82.5  | 86.5  | 85.7  | 86.0  | 90.6  | 92.1  | 90.3  | 86.0  | 79.3  | 148.3 |
| 63000 | 65.3  | 70.8  | 83.0  | 76.0  | 77.5  | 81.5  | 79.8  | 81.5  | 85.7  | 87.7  | 85.8  | 82.1  | 73.1  | 149.1 |
| 80000 | 59.7  | 64.2  | 80.5  | 69.8  | 70.9  | 75.5  | 73.7  | 75.6  | 81.0  | 82.2  | 80.3  | 76.4  | 65.1  | 150.8 |

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0ASPL 116.1 117.6 116.8 117.8 117.0 118.7 119.3 120.3 124.8 128.3 133.4 130.2 128.2 167.9  
PNL 128.8 130.2 129.9 131.0 130.5 132.5 132.6 133.2 137.5 140.9 144.8 139.7 137.1  
PNLT 128.8 130.8 129.9 131.0 130.5 132.5 132.6 133.9 137.5 140.9 144.8 139.7 137.1  
DBA 116.9 118.2 117.2 118.1 117.1 118.4 118.8 120.0 124.7 128.2 133.2 128.9 126.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL COIL G/NAS3-23166

VEHICLE = ADH400 TEST DATE = 11-29-82 LOCAT = CAT ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1703.8 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2530.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0625 TAPE = X0625C TEST PT NO = 0625 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-0625 X0625F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.1  | 86.4  | 85.4  | 87.5  | 88.1  | 87.4  | 90.1  | 87.5  | 90.2  | 88.7  | 86.6  | 97.1  | 97.0  | 133.1 |
| 63    | 95.5  | 91.8  | 89.1  | 93.9  | 95.5  | 95.3  | 98.0  | 91.6  | 97.1  | 96.1  | 103.5 | 103.5 | 102.9 | 139.8 |
| 80    | 91.5  | 96.1  | 90.8  | 93.4  | 92.7  | 95.1  | 96.0  | 93.6  | 96.3  | 95.4  | 99.0  | 100.7 | 102.4 | 138.1 |
| 100   | 90.2  | 96.5  | 91.8  | 94.3  | 94.9  | 96.5  | 97.4  | 98.0  | 98.8  | 99.3  | 101.0 | 105.1 | 107.1 | 141.1 |
| 125   | 86.4  | 89.4  | 91.9  | 94.7  | 94.3  | 95.7  | 96.3  | 95.0  | 97.2  | 99.8  | 107.4 | 108.8 | 110.0 | 143.3 |
| 160   | 86.2  | 87.2  | 90.2  | 90.8  | 90.1  | 93.0  | 97.1  | 93.5  | 97.5  | 100.8 | 107.9 | 110.4 | 113.8 | 145.0 |
| 200   | 89.5  | 89.3  | 89.3  | 92.1  | 92.7  | 95.3  | 97.0  | 97.1  | 102.1 | 103.1 | 109.8 | 113.2 | 115.1 | 147.1 |
| 250   | 88.0  | 91.8  | 92.1  | 93.6  | 93.2  | 95.3  | 98.0  | 99.6  | 102.8 | 108.6 | 114.5 | 116.7 | 116.9 | 150.3 |
| 315   | 89.6  | 92.6  | 91.1  | 93.2  | 94.5  | 97.1  | 98.5  | 99.9  | 105.4 | 110.2 | 116.6 | 118.0 | 118.2 | 151.8 |
| 400   | 90.8  | 92.6  | 93.4  | 94.4  | 94.2  | 97.1  | 99.0  | 100.4 | 106.9 | 114.4 | 119.8 | 120.0 | 118.2 | 154.1 |
| 500   | 91.6  | 94.4  | 94.1  | 95.7  | 96.3  | 98.1  | 100.3 | 101.7 | 108.4 | 116.0 | 121.1 | 120.0 | 117.9 | 154.9 |
| 630   | 92.8  | 95.6  | 95.3  | 96.9  | 96.7  | 99.1  | 101.7 | 102.6 | 109.6 | 117.7 | 122.8 | 121.0 | 119.1 | 156.3 |
| 800   | 96.3  | 96.9  | 97.1  | 98.2  | 97.8  | 100.4 | 102.8 | 104.7 | 111.9 | 117.7 | 123.3 | 121.5 | 118.4 | 156.8 |
| 1000  | 101.8 | 105.0 | 101.6 | 101.6 | 100.2 | 102.1 | 103.4 | 105.3 | 112.6 | 117.4 | 123.5 | 121.2 | 118.1 | 156.8 |
| 1250  | 104.7 | 108.2 | 106.0 | 105.6 | 104.3 | 104.5 | 105.3 | 106.8 | 113.2 | 116.5 | 124.4 | 120.1 | 116.4 | 157.1 |
| 1600  | 110.1 | 109.7 | 107.1 | 105.5 | 103.3 | 104.4 | 106.0 | 107.8 | 114.6 | 117.0 | 124.6 | 118.3 | 114.0 | 157.2 |
| 2000  | 110.3 | 110.3 | 109.0 | 110.1 | 106.2 | 104.8 | 106.1 | 108.1 | 113.7 | 117.5 | 123.5 | 115.9 | 112.6 | 156.6 |
| 2500  | 106.7 | 108.7 | 108.8 | 110.0 | 109.4 | 109.0 | 106.9 | 109.1 | 113.9 | 118.5 | 121.2 | 113.8 | 110.6 | 155.7 |
| 3150  | 104.8 | 107.1 | 107.1 | 107.9 | 108.7 | 111.3 | 109.2 | 108.9 | 114.0 | 117.0 | 119.6 | 112.5 | 108.7 | 154.7 |
| 4000  | 103.2 | 105.6 | 105.7 | 106.8 | 106.3 | 108.7 | 110.4 | 110.2 | 113.6 | 116.0 | 118.3 | 111.3 | 107.6 | 153.9 |
| 5000  | 101.3 | 104.2 | 104.6 | 106.0 | 105.5 | 107.2 | 109.3 | 110.2 | 113.2 | 115.3 | 116.4 | 109.4 | 105.9 | 152.9 |
| 6300  | 99.9  | 102.5 | 103.3 | 105.9 | 105.0 | 107.7 | 108.2 | 110.6 | 112.9 | 113.6 | 115.6 | 108.8 | 105.6 | 152.5 |
| 8000  | 98.5  | 101.6 | 102.4 | 103.9 | 104.3 | 106.6 | 107.8 | 109.6 | 112.4 | 112.2 | 113.4 | 106.9 | 104.5 | 151.6 |
| 10000 | 97.2  | 100.5 | 101.8 | 104.1 | 104.2 | 106.2 | 107.4 | 108.7 | 110.9 | 111.3 | 112.7 | 106.6 | 104.1 | 151.3 |
| 12500 | 94.7  | 98.7  | 100.5 | 102.7 | 102.5 | 105.5 | 105.8 | 106.0 | 109.9 | 109.4 | 111.5 | 105.2 | 102.2 | 150.7 |
| 16000 | 92.2  | 96.9  | 98.4  | 101.1 | 101.2 | 103.4 | 104.7 | 104.9 | 108.0 | 106.7 | 109.3 | 102.9 | 99.7  | 150.1 |
| 20000 | 89.4  | 93.5  | 96.3  | 98.3  | 98.3  | 101.6 | 102.4 | 102.1 | 105.2 | 104.7 | 107.4 | 101.0 | 96.1  | 149.5 |
| 25000 | 86.0  | 91.2  | 94.0  | 95.3  | 95.9  | 99.2  | 99.9  | 99.2  | 102.5 | 101.0 | 101.5 | 96.7  | 93.2  | 148.5 |
| 31500 | 81.5  | 87.2  | 90.3  | 92.0  | 92.0  | 95.4  | 95.6  | 95.9  | 99.3  | 99.0  | 98.5  | 94.0  | 89.5  | 148.4 |
| 40000 | 76.6  | 82.2  | 87.7  | 87.2  | 87.8  | 91.7  | 91.3  | 91.6  | 95.7  | 96.5  | 84.5  | 90.6  | 84.0  | 148.8 |
| 50000 | 70.8  | 76.6  | 83.9  | 81.3  | 82.5  | 86.5  | 85.7  | 86.0  | 90.6  | 92.1  | 80.3  | 86.0  | 79.3  | 148.3 |
| 63000 | 65.3  | 70.8  | 83.0  | 76.0  | 77.5  | 81.5  | 79.8  | 81.5  | 85.7  | 87.7  | 85.8  | 82.1  | 73.1  | 149.1 |
| 80000 | 59.7  | 64.2  | 80.5  | 69.8  | 70.9  | 75.5  | 73.7  | 75.6  | 81.0  | 82.2  | 80.3  | 76.4  | 65.1  | 150.8 |
| CASPL | 116.1 | 117.6 | 116.8 | 117.8 | 117.0 | 118.7 | 119.3 | 120.3 | 124.8 | 126.3 | 133.4 | 130.2 | 128.2 | 167.9 |
| PNL   | 128.8 | 130.2 | 129.9 | 131.0 | 130.5 | 132.5 | 132.6 | 133.2 | 137.5 | 140.9 | 144.8 | 139.7 | 137.1 |       |
| PNLT  | 128.8 | 130.8 | 129.9 | 131.0 | 130.5 | 132.5 | 132.6 | 133.9 | 137.5 | 140.9 | 144.8 | 139.7 | 137.1 |       |
| DBA   | 181.6 | 186.6 | 201.3 | 191.9 | 193.1 | 197.5 | 195.9 | 197.5 | 202.5 | 204.0 | 202.0 | 198.1 | 188.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH400 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1703.8 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2530.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0625 TAPE = X0625F TEST PT NO = 0625 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-0625 X06251

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|
| 50    | 69.5 | 72.8 | 74.7 | 76.4 | 76.7 | 79.7 | 81.4 | 82.4 | 88.2 | 94.7 | 98.5  | 96.5 | 91.3 | 172.2 |
| 63    | 70.3 | 74.6 | 75.4 | 77.7 | 78.7 | 80.7 | 82.7 | 83.7 | 89.7 | 96.2 | 99.8  | 96.5 | 91.0 | 173.0 |
| 80    | 71.4 | 75.7 | 76.6 | 78.8 | 79.1 | 81.6 | 84.1 | 84.6 | 90.8 | 97.8 | 101.4 | 97.4 | 92.1 | 174.4 |
| 100   | 74.9 | 77.0 | 78.3 | 80.1 | 80.1 | 82.9 | 85.1 | 86.6 | 93.1 | 97.8 | 101.9 | 97.8 | 91.3 | 174.9 |
| 125   | 80.2 | 85.0 | 82.7 | 83.4 | 82.4 | 84.4 | 85.7 | 87.2 | 93.7 | 97.4 | 101.9 | 97.3 | 90.7 | 174.9 |
| 160   | 82.9 | 88.0 | 86.9 | 87.3 | 86.5 | 86.7 | 87.5 | 88.5 | 94.2 | 96.4 | 102.6 | 96.0 | 88.6 | 175.2 |
| 200   | 88.1 | 89.4 | 87.9 | 87.1 | 85.2 | 86.5 | 87.9 | 89.3 | 95.4 | 96.6 | 102.6 | 93.8 | 85.8 | 175.3 |
| 250   | 87.9 | 89.7 | 89.5 | 91.4 | 88.0 | 86.7 | 87.8 | 89.4 | 94.3 | 96.9 | 101.2 | 91.0 | 83.7 | 174.7 |
| 315   | 83.9 | 87.7 | 89.0 | 91.1 | 90.9 | 90.7 | 88.5 | 90.1 | 94.2 | 97.5 | 98.5  | 88.4 | 80.9 | 173.8 |
| 400   | 81.5 | 85.7 | 87.0 | 88.6 | 89.9 | 92.6 | 90.4 | 89.6 | 93.9 | 95.7 | 96.3  | 86.4 | 78.0 | 172.9 |
| 500   | 79.5 | 83.8 | 85.2 | 87.3 | 87.2 | 89.8 | 91.3 | 90.6 | 93.1 | 94.3 | 94.5  | 84.6 | 75.9 | 172.0 |
| 630   | 77.1 | 82.0 | 83.8 | 86.1 | 86.2 | 88.0 | 90.0 | 90.3 | 92.4 | 93.1 | 92.1  | 82.0 | 73.2 | 171.1 |
| 800   | 75.2 | 80.0 | 82.2 | 85.8 | 85.4 | 88.3 | 88.6 | 90.5 | 91.8 | 91.0 | 90.9  | 80.7 | 71.7 | 170.6 |
| 1000  | 73.4 | 78.8 | 81.1 | 83.6 | 84.5 | 87.0 | 88.0 | 89.3 | 91.1 | 89.4 | 88.3  | 78.1 | 69.5 | 169.7 |
| 1250  | 71.5 | 77.3 | 80.2 | 83.6 | 84.3 | 86.5 | 87.6 | 88.2 | 89.3 | 88.1 | 87.0  | 77.0 | 67.6 | 169.5 |
| 1600  | 68.2 | 74.9 | 78.6 | 81.9 | 82.3 | 85.5 | 85.6 | 85.2 | 87.9 | 85.6 | 85.0  | 74.3 | 63.4 | 168.8 |
| 2000  | 64.7 | 72.6 | 76.0 | 80.1 | 80.9 | 83.3 | 84.4 | 83.8 | 85.7 | 82.4 | 81.7  | 70.4 | 57.9 | 168.3 |
| 2500  | 60.1 | 67.9 | 73.1 | 76.6 | 77.4 | 81.0 | 81.5 | 80.4 | 82.0 | 79.1 | 78.1  | 65.6 | 49.4 | 167.7 |
| 3150  | 53.3 | 63.2 | 68.9 | 72.1 | 73.7 | 77.3 | 77.7 | 76.0 | 77.4 | 73.0 | 68.8  | 56.4 | 38.0 | 166.7 |
| 4000  | 42.6 | 54.5 | 61.4 | 65.4 | 66.8 | 70.5 | 70.4 | 69.4 | 70.4 | 66.3 | 59.6  | 44.7 | 19.8 | 166.5 |
| 5000  | 28.0 | 41.9 | 52.5 | 55.3 | 57.6 | 62.1 | 61.1 | 59.6 | 60.6 | 56.2 | 45.8  | 27.6 |      | 166.9 |
| 6300  | 4.3  | 22.0 | 36.7 | 38.6 | 42.2 | 47.0 | 45.4 | 43.3 | 43.4 | 37.5 | 23.8  |      |      | 166.4 |
| 8000  |      |      | 14.5 | 14.0 | 19.1 | 24.2 | 21.4 | 19.5 | 17.2 | 8.4  |       |      |      | 167.3 |
| 10000 |      |      |      |      |      |      |      |      |      |      |       |      |      | 169.0 |
| 12500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |

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DASPL 93.5 96.6 96.8 98.5 98.0 99.6 100.0 100.7 104.7 107.5 111.1 105.5 99.2 185.8  
 PNL 97.4 101.1 102.4 104.7 104.7 107.1 107.4 107.4 110.4 111.7 113.8 105.6 98.1  
 PNLT 98.4 101.1 102.4 104.7 104.7 107.1 107.4 107.4 110.4 112.3 113.8 105.6 98.1  
 DBA 86.1 90.0 91.6 94.0 94.2 96.5 97.0 97.4 99.8 100.0 101.2 92.1 84.3

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH400 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =  
 FNINI = LBS XNL = RPM XNH = RPM V8 = 1703.8 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2530.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-0625 TAPE = X06251 TEST PT NO = 0625 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0626 X0626C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.9  | 87.9  | 83.9  | 84.7  | 84.6  | 83.2  | 92.1  | 87.2  | 89.4  | 89.5  | 86.9  | 93.8  | 100.7 | 133.3 |
| 63    | 89.8  | 91.8  | 90.1  | 89.6  | 91.7  | 89.6  | 96.7  | 90.6  | 94.8  | 96.1  | 103.0 | 95.5  | 100.4 | 137.5 |
| 80    | 91.3  | 95.8  | 90.3  | 92.9  | 92.5  | 94.6  | 95.2  | 92.4  | 95.3  | 95.2  | 97.8  | 99.0  | 103.1 | 137.6 |
| 100   | 89.5  | 94.2  | 89.8  | 91.8  | 92.6  | 94.3  | 97.9  | 95.8  | 96.8  | 96.1  | 98.5  | 102.9 | 106.1 | 139.3 |
| 125   | 87.1  | 89.2  | 90.9  | 93.2  | 92.8  | 94.2  | 98.3  | 94.0  | 94.9  | 97.3  | 104.1 | 106.8 | 109.0 | 141.6 |
| 160   | 85.2  | 83.5  | 87.5  | 87.5  | 87.6  | 89.5  | 94.6  | 90.5  | 94.2  | 98.1  | 105.2 | 107.9 | 111.8 | 142.6 |
| 200   | 87.3  | 87.1  | 85.1  | 87.9  | 88.7  | 90.8  | 93.2  | 94.1  | 98.6  | 99.6  | 105.8 | 110.5 | 113.1 | 144.3 |
| 250   | 83.8  | 87.3  | 87.1  | 89.1  | 89.5  | 91.6  | 95.0  | 95.4  | 98.8  | 104.2 | 110.3 | 113.7 | 114.1 | 146.9 |
| 315   | 85.3  | 87.6  | 86.6  | 88.9  | 90.0  | 92.4  | 95.8  | 95.4  | 101.1 | 106.2 | 112.6 | 115.0 | 114.4 | 148.2 |
| 400   | 86.8  | 87.6  | 88.4  | 88.9  | 89.8  | 92.6  | 95.0  | 95.7  | 102.6 | 110.2 | 115.8 | 116.3 | 113.7 | 150.0 |
| 500   | 87.1  | 89.4  | 89.6  | 90.7  | 91.5  | 94.1  | 98.5  | 97.4  | 103.9 | 112.2 | 117.6 | 116.8 | 110.7 | 151.1 |
| 630   | 88.0  | 90.1  | 90.6  | 92.4  | 92.2  | 94.8  | 98.7  | 99.4  | 105.3 | 114.4 | 119.3 | 116.5 | 107.9 | 152.2 |
| 800   | 90.6  | 90.4  | 91.6  | 93.2  | 93.3  | 96.1  | 98.3  | 100.7 | 107.9 | 114.7 | 119.6 | 114.8 | 105.2 | 152.2 |
| 1000  | 96.5  | 96.0  | 94.3  | 96.1  | 95.2  | 97.6  | 99.9  | 101.8 | 108.8 | 114.9 | 119.3 | 113.2 | 103.6 | 152.0 |
| 1250  | 102.7 | 104.7 | 99.2  | 99.1  | 97.6  | 99.0  | 100.3 | 102.8 | 109.7 | 114.0 | 118.4 | 111.4 | 101.9 | 151.5 |
| 1600  | 107.6 | 108.2 | 106.6 | 105.5 | 100.0 | 100.4 | 101.5 | 103.8 | 111.4 | 114.2 | 118.8 | 110.5 | 102.0 | 152.4 |
| 2000  | 106.8 | 107.8 | 107.7 | 109.9 | 106.7 | 102.8 | 102.0 | 104.9 | 111.0 | 115.2 | 118.8 | 109.1 | 102.1 | 152.9 |
| 2500  | 102.9 | 104.2 | 104.3 | 107.5 | 107.9 | 108.5 | 104.4 | 106.3 | 110.7 | 115.7 | 118.0 | 108.8 | 101.5 | 152.6 |
| 3150  | 102.5 | 103.8 | 101.6 | 103.1 | 104.9 | 108.7 | 108.4 | 107.1 | 111.4 | 115.5 | 116.3 | 107.7 | 100.9 | 152.0 |
| 4000  | 100.9 | 102.2 | 101.3 | 103.0 | 102.5 | 104.7 | 107.3 | 108.9 | 112.0 | 114.4 | 115.2 | 106.7 | 100.0 | 151.3 |
| 5000  | 99.7  | 101.3 | 98.9  | 102.3 | 102.4 | 104.1 | 105.2 | 108.5 | 112.3 | 113.6 | 113.5 | 105.3 | 98.5  | 150.6 |
| 6300  | 99.0  | 99.8  | 97.6  | 101.5 | 102.3 | 104.2 | 104.8 | 108.5 | 111.7 | 112.4 | 111.9 | 104.2 | 97.2  | 150.0 |
| 8000  | 98.5  | 100.5 | 96.6  | 100.3 | 101.3 | 102.6 | 104.8 | 107.1 | 111.8 | 111.4 | 109.6 | 102.4 | 96.3  | 149.5 |
| 10000 | 98.3  | 99.3  | 95.9  | 100.4 | 101.3 | 102.8 | 104.1 | 106.3 | 110.5 | 109.8 | 108.8 | 101.5 | 96.2  | 149.0 |
| 12500 | 95.8  | 97.5  | 95.3  | 100.0 | 100.3 | 102.3 | 102.6 | 104.0 | 108.9 | 108.4 | 107.3 | 100.0 | 94.8  | 148.3 |
| 16000 | 93.6  | 98.2  | 92.9  | 98.7  | 98.7  | 100.5 | 101.0 | 102.7 | 107.3 | 105.9 | 104.5 | 99.0  | 94.0  | 147.8 |
| 20000 | 90.1  | 92.4  | 90.5  | 95.8  | 96.8  | 98.8  | 99.4  | 100.0 | 104.2 | 103.3 | 101.8 | 96.5  | 90.8  | 147.0 |
| 25000 | 86.6  | 89.6  | 89.2  | 92.5  | 94.3  | 96.6  | 97.3  | 97.4  | 101.4 | 99.7  | 98.6  | 94.3  | 88.8  | 146.5 |
| 31500 | 83.1  | 86.3  | 85.8  | 89.9  | 90.9  | 93.7  | 93.2  | 94.4  | 98.6  | 98.2  | 95.0  | 91.1  | 85.1  | 146.8 |
| 40000 | 78.6  | 82.7  | 86.5  | 85.1  | 86.9  | 90.5  | 89.6  | 90.5  | 95.8  | 94.3  | 91.7  | 87.5  | 80.4  | 147.4 |
| 50000 | 72.4  | 76.5  | 86.3  | 79.4  | 81.4  | 85.2  | 84.6  | 85.6  | 91.0  | 90.2  | 87.1  | 82.9  | 75.1  | 147.3 |
| 63000 | 66.8  | 71.6  | 87.1  | 74.2  | 76.7  | 79.9  | 78.8  | 81.2  | 86.5  | 88.0  | 83.2  | 78.7  | 68.5  | 149.4 |
| 80000 | 60.7  | 66.3  | 86.8  | 67.8  | 70.5  | 74.0  | 72.3  | 73.7  | 79.8  | 82.2  | 78.9  | 72.0  | 61.1  | 152.4 |

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OASPL 113.5 114.7 113.3 115.2 114.5 115.8 116.3 117.8 122.5 125.9 129.2 125.2 122.1 164.7  
PNL 125.9 127.1 126.1 128.2 128.0 129.6 130.1 131.1 135.2 138.7 141.0 134.6 129.9  
PNLT 125.9 127.1 126.1 129.3 128.0 129.6 130.1 131.1 135.2 138.7 141.0 134.6 129.9  
DBA 114.1 115.2 113.9 115.6 114.6 115.7 115.8 117.5 122.2 125.8 128.9 122.9 116.7

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH412 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 58.30 PAMB HG = 29.47 RELHUM = 70.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1684.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0626 TAPE = X0626C TEST PT NO = 0626 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0626 X0626F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 91.7  | 93.8  | 92.0  | 92.4  | 91.1  | 91.6  | 93.1  | 91.8  | 97.7  | 101.8 | 107.7 | 110.6 | 111.8 | 144.4 |
| 315   | 91.7  | 93.8  | 92.0  | 92.4  | 91.8  | 92.6  | 94.4  | 92.6  | 99.4  | 106.1 | 111.3 | 112.6 | 112.5 | 146.6 |
| 400   | 93.0  | 94.0  | 91.6  | 92.3  | 91.5  | 92.9  | 93.7  | 92.9  | 102.3 | 110.1 | 115.5 | 116.0 | 113.4 | 149.8 |
| 500   | 94.1  | 93.7  | 93.2  | 92.2  | 93.4  | 94.5  | 97.8  | 95.8  | 103.6 | 112.3 | 117.5 | 116.8 | 112.9 | 151.2 |
| 630   | 94.8  | 95.8  | 94.6  | 94.1  | 94.2  | 95.2  | 97.9  | 97.4  | 106.4 | 113.0 | 118.4 | 116.4 | 113.0 | 151.7 |
| 800   | 95.7  | 96.5  | 95.6  | 95.9  | 95.3  | 96.7  | 97.4  | 98.6  | 107.8 | 113.7 | 118.8 | 116.2 | 114.0 | 152.2 |
| 1000  | 98.3  | 96.8  | 96.7  | 96.8  | 96.8  | 98.2  | 99.2  | 100.0 | 108.7 | 112.8 | 117.9 | 114.3 | 112.3 | 151.2 |
| 1250  | 102.2 | 100.8 | 98.0  | 98.7  | 99.4  | 99.8  | 99.8  | 100.9 | 110.5 | 113.1 | 118.4 | 113.6 | 112.6 | 151.8 |
| 1600  | 109.9 | 110.7 | 103.9 | 102.3 | 102.0 | 101.4 | 101.1 | 102.1 | 110.4 | 114.4 | 118.5 | 112.3 | 112.9 | 152.7 |
| 2000  | 114.8 | 114.3 | 111.3 | 108.8 | 108.8 | 104.1 | 101.9 | 103.4 | 110.4 | 115.2 | 118.1 | 112.3 | 112.7 | 154.2 |
| 2500  | 112.4 | 112.6 | 111.6 | 112.8 | 110.8 | 110.1 | 104.6 | 105.2 | 111.6 | 115.5 | 116.9 | 111.8 | 112.6 | 154.3 |
| 3150  | 110.5 | 110.8 | 109.7 | 111.7 | 108.2 | 110.8 | 109.0 | 106.5 | 112.8 | 114.9 | 116.1 | 110.9 | 111.6 | 153.8 |
| 4000  | 110.1 | 110.4 | 107.1 | 107.5 | 106.1 | 107.2 | 108.5 | 108.8 | 113.1 | 114.0 | 114.2 | 109.1 | 109.5 | 152.6 |
| 5000  | 108.2 | 108.8 | 107.0 | 107.6 | 106.4 | 107.1 | 106.7 | 108.6 | 112.5 | 112.7 | 112.6 | 107.9 | 107.9 | 151.8 |
| 6300  | 107.1 | 108.0 | 104.8 | 107.2 | 106.3 | 107.2 | 106.2 | 108.5 | 112.8 | 111.9 | 110.5 | 106.2 | 107.1 | 151.4 |
| 8000  | 106.3 | 106.4 | 103.3 | 106.2 | 105.3 | 105.6 | 106.3 | 107.2 | 112.0 | 111.0 | 110.4 | 106.4 | 108.8 | 151.0 |
| 10000 | 105.7 | 106.9 | 102.1 | 104.9 | 105.4 | 105.8 | 106.0 | 106.7 | 110.8 | 109.8 | 109.3 | 105.4 | 107.7 | 150.8 |
| 12500 | 105.2 | 105.5 | 101.1 | 104.7 | 104.3 | 105.3 | 104.5 | 104.5 | 110.2 | 108.6 | 107.8 | 105.8 | 108.3 | 150.7 |
| 16000 | 102.2 | 103.1 | 100.0 | 103.7 | 102.8 | 103.5 | 103.2 | 103.5 | 107.5 | 106.4 | 105.5 | 103.6 | 105.6 | 150.0 |
| 20000 | 99.5  | 101.4 | 97.2  | 102.0 | 101.4 | 101.8 | 101.5 | 100.9 | 105.9 | 104.0 | 103.7 | 102.8 | 104.6 | 150.0 |
| 25000 | 98.3  | 99.2  | 95.9  | 99.6  | 98.9  | 99.6  | 99.6  | 98.7  | 103.4 | 102.7 | 100.1 | 99.7  | 101.3 | 150.1 |
| 31500 | 93.9  | 95.7  | 93.8  | 95.5  | 95.5  | 96.7  | 95.4  | 95.3  | 101.2 | 99.4  | 97.3  | 96.6  | 97.2  | 150.0 |
| 40000 | 89.6  | 91.5  | 89.6  | 92.1  | 91.5  | 93.5  | 91.7  | 91.3  | 96.4  | 95.2  | 92.4  | 91.5  | 91.2  | 149.7 |
| 50000 | 84.7  | 87.6  | 89.9  | 86.9  | 85.8  | 88.2  | 86.6  | 86.1  | 92.5  | 93.4  | 89.0  | 87.5  | 84.2  | 150.4 |
| 63000 | 76.0  | 79.3  | 88.1  | 79.9  | 80.6  | 82.9  | 80.4  | 81.3  | 87.2  | 89.1  | 86.1  | 82.3  | 78.2  | 151.0 |
| 80000 | 66.4  | 70.8  | 85.7  | 72.1  | 74.6  | 77.0  | 73.7  | 73.7  | 77.4  | 79.2  | 76.3  | 72.5  | 68.4  | 151.5 |
| GASPL | 120.4 | 120.6 | 118.0 | 118.9 | 117.6 | 117.9 | 117.0 | 117.4 | 123.0 | 125.3 | 128.5 | 125.4 | 124.4 | 165.5 |
| PNL   | 132.6 | 132.7 | 130.8 | 131.8 | 130.3 | 130.9 | 129.8 | 129.9 | 135.3 | 137.6 | 139.6 | 135.4 | 135.5 |       |
| PNLT  | 133.9 | 134.7 | 130.8 | 131.8 | 130.3 | 130.9 | 129.8 | 129.9 | 135.3 | 137.6 | 139.6 | 135.4 | 135.5 |       |
| DBA   | 191.0 | 194.5 | 206.5 | 195.2 | 196.6 | 199.0 | 196.1 | 196.3 | 201.1 | 202.8 | 199.7 | 196.2 | 192.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COA. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH412 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 58.30 PAMB HG = 29.47 RELHUM = 70.5 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1684.1 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0626 TAPE = X0626F TEST PT NO = 0626 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0626 X06261

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 71.7 | 74.2 | 72.9 | 74.3 | 74.0 | 75.4 | 76.1 | 74.9 | 83.6 | 90.4 | 94.2 | 92.5 | 86.5 | 168.0 |
| 63    | 72.7 | 73.9 | 74.4 | 74.2 | 75.8 | 77.0 | 80.2 | 77.8 | 84.9 | 92.5 | 96.2 | 93.3 | 86.0 | 169.4 |
| 80    | 73.4 | 76.0 | 75.9 | 76.1 | 76.6 | 77.8 | 80.2 | 79.3 | 87.7 | 93.1 | 97.0 | 92.8 | 86.0 | 169.8 |
| 100   | 74.3 | 76.6 | 76.8 | 77.8 | 77.7 | 79.1 | 79.8 | 80.6 | 89.0 | 93.8 | 97.3 | 92.5 | 86.9 | 170.3 |
| 125   | 76.7 | 76.8 | 77.8 | 78.6 | 79.1 | 80.6 | 81.5 | 81.8 | 89.8 | 92.8 | 96.3 | 90.4 | 84.9 | 169.4 |
| 150   | 80.5 | 80.6 | 78.9 | 80.4 | 81.6 | 82.0 | 81.9 | 82.6 | 91.5 | 93.0 | 96.7 | 89.5 | 84.9 | 169.9 |
| 200   | 87.9 | 90.4 | 84.6 | 83.8 | 84.0 | 83.5 | 83.1 | 83.7 | 91.1 | 94.0 | 96.5 | 87.9 | 84.7 | 170.8 |
| 250   | 92.5 | 93.6 | 91.9 | 90.1 | 90.6 | 86.0 | 83.7 | 84.8 | 90.9 | 94.5 | 95.7 | 87.5 | 83.6 | 172.3 |
| 315   | 89.7 | 91.6 | 91.8 | 93.9 | 92.3 | 91.8 | 86.1 | 86.3 | 91.9 | 94.5 | 94.1 | 86.3 | 82.9 | 172.5 |
| 400   | 87.2 | 89.4 | 89.6 | 92.4 | 89.4 | 92.1 | 90.2 | 87.2 | 92.7 | 93.5 | 92.8 | 84.8 | 80.9 | 171.9 |
| 500   | 86.3 | 88.7 | 86.7 | 87.9 | 87.1 | 88.3 | 89.4 | 89.2 | 92.6 | 92.2 | 90.4 | 82.4 | 77.9 | 170.7 |
| 630   | 83.9 | 86.6 | 86.2 | 87.8 | 87.1 | 87.9 | 87.3 | 88.7 | 91.8 | 90.5 | 88.4 | 80.5 | 75.2 | 169.9 |
| 800   | 82.4 | 85.5 | 83.7 | 87.1 | 86.7 | 87.8 | 86.6 | 88.3 | 91.8 | 89.4 | 85.8 | 78.1 | 73.2 | 169.5 |
| 1000  | 81.2 | 83.5 | 82.0 | 85.9 | 85.6 | 86.0 | 86.6 | 86.9 | 90.7 | 88.2 | 85.3 | 77.7 | 73.6 | 169.2 |
| 1250  | 80.0 | 83.8 | 80.6 | 84.4 | 85.5 | 86.2 | 86.1 | 86.3 | 89.2 | 86.7 | 83.6 | 75.8 | 71.3 | 168.9 |
| 1600  | 78.7 | 81.7 | 79.1 | 83.9 | 84.2 | 85.3 | 84.4 | 83.7 | 88.2 | 84.8 | 81.3 | 74.8 | 69.5 | 168.8 |
| 2000  | 74.6 | 78.7 | 77.7 | 82.7 | 82.5 | 83.4 | 82.9 | 82.5 | 85.2 | 82.0 | 78.0 | 71.1 | 63.8 | 168.2 |
| 2500  | 70.2 | 75.8 | 74.0 | 80.3 | 80.5 | 81.2 | 80.7 | 79.2 | 82.7 | 78.4 | 74.4 | 67.4 | 57.9 | 168.1 |
| 3150  | 65.6 | 71.2 | 70.8 | 76.4 | 76.6 | 77.7 | 77.4 | 75.4 | 78.3 | 74.7 | 67.5 | 59.4 | 46.2 | 168.2 |
| 4000  | 55.0 | 62.9 | 64.9 | 69.0 | 70.3 | 71.9 | 70.2 | 68.8 | 72.3 | 66.6 | 58.4 | 47.3 | 27.6 | 168.2 |
| 5000  | 40.9 | 51.2 | 54.3 | 60.2 | 61.2 | 63.8 | 61.5 | 59.3 | 61.2 | 54.8 | 43.8 | 28.5 |      | 167.9 |
| 6300  | 18.2 | 33.0 | 42.7 | 44.2 | 45.5 | 48.7 | 46.2 | 43.3 | 45.3 | 38.9 | 22.5 | 0.4  |      | 168.5 |
| 8000  |      | 19.5 | 17.9 | 22.1 | 25.6 | 22.0 | 19.3 | 18.6 | 9.7  |      |      |      |      | 169.2 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 169.6 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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OASPL 97.2 99.2 97.9 99.4 98.6 98.9 97.7 97.6 102.6 104.3 106.1 100.8 95.3 183.6  
PNL 102.6 104.9 103.8 106.4 105.7 106.5 105.5 105.1 109.5 109.3 109.0 101.7 96.8  
PNLT 103.2 106.0 104.5 106.9 105.7 106.5 106.0 105.1 110.1 110.0 109.0 102.8 96.8  
DBA 92.0 94.5 93.2 95.9 95.3 96.1 95.3 95.4 99.2 98.0 96.7 89.1 84.7

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/1 AS3-23166

VEHICLE = ADH412 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 58.30 PAMB HG = 29.47 RELHUM = 70.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1684.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2507.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0626 TAPE = X06261 TEST PT NO = 0626 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0627 X0627C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.9  | 87.4  | 85.9  | 88.0  | 85.6  | 86.9  | 89.3  | 88.7  | 90.2  | 88.5  | 96.4  | 97.3  | 97.5  | 133.1 |
| 63    | 93.3  | 93.0  | 90.3  | 94.6  | 92.7  | 95.1  | 96.0  | 93.4  | 96.1  | 94.9  | 103.3 | 103.5 | 103.1 | 139.3 |
| 80    | 92.3  | 96.6  | 90.6  | 94.1  | 93.5  | 96.1  | 97.0  | 94.4  | 96.3  | 96.7  | 99.8  | 101.5 | 103.1 | 138.9 |
| 100   | 90.5  | 97.0  | 92.5  | 95.3  | 95.6  | 96.8  | 98.1  | 98.5  | 99.3  | 99.8  | 101.7 | 105.9 | 107.6 | 141.7 |
| 125   | 86.9  | 89.7  | 92.7  | 95.7  | 95.3  | 96.7  | 98.1  | 96.0  | 97.9  | 100.8 | 107.9 | 109.8 | 111.0 | 144.2 |
| 160   | 86.4  | 87.5  | 90.0  | 91.0  | 89.9  | 93.0  | 98.1  | 94.3  | 98.2  | 101.3 | 108.4 | 110.4 | 114.3 | 145.4 |
| 200   | 90.0  | 89.8  | 89.6  | 92.9  | 93.2  | 95.6  | 97.7  | 97.6  | 102.6 | 103.9 | 110.3 | 114.0 | 115.6 | 147.7 |
| 250   | 88.5  | 92.1  | 92.3  | 94.4  | 93.7  | 95.6  | 98.7  | 100.6 | 103.3 | 108.9 | 115.0 | 117.5 | 117.6 | 150.9 |
| 315   | 89.6  | 92.6  | 91.1  | 93.9  | 95.0  | 97.9  | 99.0  | 99.9  | 105.9 | 111.0 | 117.6 | 118.5 | 118.4 | 152.5 |
| 400   | 91.3  | 93.1  | 93.9  | 94.7  | 94.7  | 96.9  | 99.7  | 100.7 | 107.1 | 114.9 | 120.1 | 120.0 | 118.4 | 154.3 |
| 500   | 91.8  | 94.9  | 94.4  | 95.9  | 96.3  | 98.4  | 100.5 | 102.2 | 108.9 | 116.5 | 121.6 | 121.0 | 118.2 | 155.5 |
| 630   | 93.3  | 96.3  | 95.8  | 97.4  | 97.2  | 99.8  | 102.2 | 103.9 | 109.8 | 118.2 | 123.0 | 121.7 | 118.9 | 156.7 |
| 800   | 96.8  | 96.9  | 97.4  | 98.4  | 98.5  | 100.9 | 102.8 | 104.7 | 111.6 | 118.7 | 123.8 | 121.5 | 118.7 | 157.2 |
| 1000  | 102.0 | 105.5 | 102.3 | 102.3 | 100.7 | 102.3 | 103.9 | 105.8 | 112.3 | 118.6 | 124.3 | 122.2 | 118.3 | 157.6 |
| 1250  | 104.4 | 108.4 | 105.7 | 106.4 | 104.6 | 104.7 | 105.6 | 107.0 | 113.7 | 117.5 | 124.2 | 120.3 | 116.4 | 157.2 |
| 1600  | 109.6 | 109.5 | 107.4 | 106.5 | 103.8 | 104.9 | 106.5 | 108.0 | 115.1 | 117.2 | 125.1 | 118.8 | 114.5 | 157.6 |
| 2000  | 109.5 | 110.1 | 109.0 | 110.1 | 107.0 | 105.3 | 106.3 | 108.4 | 114.7 | 118.8 | 123.8 | 116.4 | 112.9 | 157.0 |
| 2500  | 105.9 | 108.7 | 108.0 | 110.0 | 108.9 | 109.5 | 107.4 | 109.1 | 114.2 | 118.7 | 121.5 | 115.3 | 110.3 | 155.9 |
| 3150  | 104.5 | 106.6 | 106.9 | 107.6 | 108.2 | 110.8 | 109.7 | 109.1 | 114.5 | 117.8 | 119.8 | 113.2 | 108.2 | 155.0 |
| 4000  | 102.5 | 104.6 | 105.4 | 106.6 | 105.8 | 109.0 | 110.1 | 110.2 | 114.3 | 116.8 | 118.5 | 112.1 | 107.3 | 154.2 |
| 5000  | 101.0 | 103.7 | 104.3 | 105.5 | 105.2 | 107.7 | 109.1 | 110.7 | 114.4 | 115.8 | 117.1 | 110.9 | 105.9 | 153.5 |
| 6300  | 99.4  | 102.0 | 103.6 | 105.6 | 105.5 | 108.2 | 108.2 | 110.4 | 112.9 | 114.1 | 116.3 | 109.8 | 104.6 | 152.8 |
| 8000  | 97.5  | 101.8 | 102.7 | 103.6 | 104.0 | 106.3 | 107.5 | 109.6 | 112.6 | 113.0 | 114.4 | 107.9 | 102.8 | 152.0 |
| 10000 | 96.9  | 100.5 | 102.3 | 103.8 | 104.4 | 106.4 | 107.7 | 108.2 | 111.4 | 111.5 | 113.9 | 107.8 | 102.3 | 151.8 |
| 12500 | 94.5  | 99.0  | 101.0 | 102.7 | 103.0 | 105.5 | 106.3 | 106.5 | 110.4 | 110.2 | 112.5 | 106.2 | 100.7 | 151.3 |
| 16000 | 92.2  | 97.4  | 98.6  | 101.1 | 101.7 | 103.4 | 105.2 | 104.9 | 108.3 | 108.0 | 110.2 | 103.9 | 98.9  | 150.7 |
| 20000 | 88.9  | 93.7  | 96.3  | 98.6  | 98.8  | 102.1 | 102.4 | 102.1 | 106.0 | 104.7 | 108.1 | 101.2 | 96.1  | 149.9 |
| 25000 | 85.2  | 91.2  | 94.3  | 95.6  | 96.2  | 99.7  | 100.2 | 99.5  | 102.8 | 101.8 | 102.5 | 99.0  | 93.2  | 149.0 |
| 31500 | 82.0  | 87.2  | 90.3  | 92.5  | 92.7  | 96.1  | 96.1  | 96.2  | 99.8  | 100.0 | 99.2  | 95.5  | 89.2  | 149.1 |
| 40000 | 77.2  | 82.7  | 88.2  | 87.5  | 88.6  | 92.7  | 91.6  | 92.1  | 96.5  | 97.5  | 95.3  | 92.8  | 83.8  | 149.6 |
| 50000 | 71.3  | 77.6  | 84.7  | 82.1  | 83.2  | 87.1  | 85.9  | 86.5  | 91.3  | 91.9  | 91.3  | 88.3  | 78.1  | 148.8 |
| 63000 | 65.9  | 71.5  | 83.0  | 77.5  | 78.8  | 82.0  | 80.4  | 81.5  | 86.0  | 87.8  | 87.3  | 85.4  | 71.9  | 149.8 |
| 80000 | 59.2  | 64.8  | 80.8  | 70.8  | 71.7  | 76.0  | 74.5  | 75.1  | 80.7  | 83.3  | 80.8  | 78.9  | 64.9  | 151.4 |

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GASPL 115.6 117.5 116.8 117.9 117.0 118.8 119.4 120.4 125.3 129.0 133.8 130.8 128.4 168.4  
PNL 128.3 130.1 129.6 131.1 130.4 132.4 132.7 133.4 138.0 141.4 145.1 140.5 137.2  
PNLT 128.3 130.7 129.6 131.1 130.4 132.4 132.7 133.9 138.0 141.4 145.1 140.5 137.2  
DBA 116.3 118.0 117.1 118.1 117.0 118.6 118.9 120.1 125.2 128.9 133.6 129.5 126.2

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH401 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1719.4 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2550.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0627 TAPE = X0627C TEST PT NO = 0627 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0627 X0627F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.9  | 87.4  | 85.9  | 88.0  | 85.6  | 86.9  | 89.3  | 88.7  | 90.2  | 88.5  | 96.4  | 97.3  | 97.5  | 133.1 |
| 63    | 93.3  | 93.0  | 90.3  | 94.6  | 92.7  | 95.1  | 96.0  | 93.4  | 96.1  | 94.9  | 103.3 | 103.5 | 103.1 | 139.3 |
| 80    | 92.3  | 96.6  | 90.6  | 94.1  | 93.5  | 96.1  | 97.0  | 94.4  | 96.3  | 96.7  | 99.8  | 101.5 | 103.1 | 138.9 |
| 100   | 90.5  | 97.0  | 92.5  | 95.3  | 95.6  | 96.8  | 98.1  | 98.5  | 99.3  | 99.8  | 101.7 | 105.9 | 107.6 | 141.7 |
| 125   | 86.9  | 89.7  | 92.7  | 95.7  | 95.3  | 96.7  | 98.1  | 96.0  | 97.9  | 100.8 | 107.9 | 109.8 | 111.0 | 144.2 |
| 160   | 86.4  | 87.5  | 90.0  | 91.0  | 89.9  | 93.0  | 98.1  | 94.3  | 98.2  | 101.3 | 108.4 | 110.4 | 114.3 | 145.4 |
| 200   | 90.0  | 89.8  | 89.6  | 92.9  | 93.2  | 95.6  | 97.7  | 97.6  | 102.6 | 103.9 | 110.3 | 114.0 | 115.6 | 147.7 |
| 250   | 88.5  | 92.1  | 92.3  | 94.4  | 93.7  | 95.6  | 98.7  | 100.6 | 103.3 | 108.9 | 115.0 | 117.5 | 117.6 | 150.9 |
| 315   | 89.6  | 92.6  | 91.1  | 93.9  | 95.0  | 97.9  | 99.0  | 99.9  | 105.9 | 111.0 | 117.6 | 118.5 | 118.4 | 152.5 |
| 400   | 91.3  | 93.1  | 93.9  | 94.7  | 94.7  | 96.9  | 99.7  | 100.7 | 107.1 | 114.9 | 120.1 | 120.0 | 118.4 | 154.3 |
| 500   | 91.8  | 94.9  | 94.4  | 95.9  | 96.3  | 98.4  | 100.5 | 102.2 | 108.9 | 116.5 | 121.6 | 121.0 | 118.2 | 155.5 |
| 630   | 93.3  | 96.3  | 95.8  | 97.4  | 97.2  | 99.8  | 102.2 | 103.9 | 109.8 | 118.2 | 123.0 | 121.7 | 118.9 | 156.7 |
| 800   | 96.8  | 96.9  | 97.4  | 98.4  | 98.5  | 100.9 | 102.8 | 104.7 | 111.6 | 118.7 | 123.8 | 121.5 | 118.7 | 157.2 |
| 1000  | 102.0 | 105.5 | 102.3 | 102.3 | 100.7 | 102.3 | 103.9 | 105.8 | 112.3 | 118.6 | 124.3 | 122.2 | 118.3 | 157.6 |
| 1250  | 104.4 | 108.4 | 105.7 | 106.4 | 104.6 | 104.7 | 105.6 | 107.0 | 113.7 | 117.5 | 124.2 | 120.3 | 116.4 | 157.2 |
| 1600  | 109.6 | 109.5 | 107.4 | 106.5 | 103.8 | 104.9 | 106.5 | 108.0 | 115.1 | 117.2 | 125.1 | 118.8 | 114.5 | 157.6 |
| 2000  | 109.5 | 110.1 | 109.0 | 110.1 | 107.0 | 105.3 | 106.3 | 108.4 | 114.7 | 118.8 | 123.8 | 116.4 | 112.9 | 157.0 |
| 2500  | 105.9 | 108.7 | 108.0 | 110.0 | 108.9 | 109.5 | 107.4 | 109.1 | 114.2 | 118.7 | 121.5 | 115.3 | 110.3 | 155.9 |
| 3150  | 104.5 | 106.6 | 106.9 | 107.6 | 106.2 | 110.8 | 109.7 | 109.1 | 114.5 | 117.8 | 119.8 | 113.2 | 108.2 | 155.0 |
| 4000  | 102.5 | 104.6 | 105.4 | 106.6 | 105.8 | 109.0 | 110.1 | 110.2 | 114.3 | 116.8 | 118.5 | 112.1 | 107.3 | 154.2 |
| 5000  | 101.0 | 103.7 | 104.3 | 105.5 | 105.2 | 107.7 | 109.1 | 110.7 | 114.4 | 115.8 | 117.1 | 110.9 | 105.9 | 153.5 |
| 6300  | 99.4  | 102.0 | 103.6 | 105.6 | 105.5 | 108.2 | 108.2 | 110.4 | 112.9 | 114.1 | 116.3 | 109.8 | 104.6 | 152.8 |
| 8000  | 97.5  | 101.8 | 102.7 | 103.6 | 104.0 | 106.3 | 107.5 | 109.6 | 112.6 | 113.0 | 114.4 | 107.9 | 102.8 | 152.0 |
| 10000 | 96.9  | 100.5 | 102.3 | 103.8 | 104.4 | 106.4 | 107.7 | 108.2 | 111.4 | 111.5 | 113.9 | 107.8 | 102.3 | 151.8 |
| 12500 | 94.5  | 99.0  | 101.0 | 102.7 | 103.0 | 105.5 | 106.3 | 106.5 | 110.4 | 110.2 | 112.5 | 106.2 | 100.7 | 151.3 |
| 16000 | 92.2  | 97.4  | 98.6  | 101.1 | 101.7 | 103.4 | 105.2 | 104.9 | 108.3 | 108.0 | 110.2 | 103.9 | 98.9  | 150.7 |
| 20000 | 88.9  | 93.7  | 96.3  | 98.6  | 98.8  | 102.1 | 102.4 | 102.1 | 106.0 | 104.7 | 108.1 | 101.2 | 96.1  | 149.9 |
| 25000 | 85.2  | 91.2  | 94.3  | 95.6  | 96.2  | 99.7  | 100.2 | 99.5  | 102.8 | 101.8 | 102.5 | 99.0  | 93.2  | 149.0 |
| 31500 | 82.0  | 87.2  | 90.3  | 92.5  | 92.7  | 96.1  | 96.1  | 96.2  | 99.8  | 100.0 | 99.2  | 95.5  | 89.2  | 149.1 |
| 40000 | 77.2  | 82.7  | 88.2  | 87.5  | 88.6  | 92.7  | 91.6  | 92.1  | 96.5  | 97.5  | 95.3  | 92.8  | 83.8  | 149.6 |
| 50000 | 71.3  | 77.6  | 84.7  | 82.1  | 83.2  | 87.1  | 85.9  | 86.5  | 91.3  | 91.9  | 81.3  | 88.3  | 78.1  | 148.8 |
| 63000 | 65.9  | 71.5  | 83.0  | 77.5  | 78.8  | 82.0  | 80.4  | 81.5  | 86.0  | 87.8  | 87.3  | 85.4  | 71.9  | 149.8 |
| 80000 | 59.2  | 64.8  | 80.8  | 70.8  | 71.7  | 76.0  | 74.5  | 75.1  | 80.7  | 83.3  | 80.8  | 78.9  | 64.9  | 151.4 |

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CASPL 115.6 117.5 116.8 117.9 117.0 118.8 119.4 120.4 125.3 129.0 133.8 130.8 128.4 168.4  
PNL 128.3 130.1 129.6 131.1 130.4 132.4 132.7 133.4 138.0 141.4 145.1 140.5 137.2  
PNLT 128.3 130.7 129.6 131.1 130.4 132.4 132.7 133.9 138.0 141.4 145.1 140.5 137.2  
DBA 181.5 187.2 201.6 193.0 194.1 198.0 196.5 197.3 202.5 204.7 202.9 200.8 187.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH401 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1719.4 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2550.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0627 TAPE = X0627F TEST PT NO = 0627 NC = AE074 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0627 X06271

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 70.0 | 73.3  | 75.2  | 76.7  | 77.2  | 79.4  | 82.2  | 82.7  | 88.4  | 95.2  | 98.8  | 96.5  | 91.6 | 172.4 |
| 63    | 70.5 | 75.1  | 75.7  | 77.9  | 78.7  | 80.9  | 82.9  | 84.2  | 90.2  | 96.7  | 100.3 | 97.5  | 91.3 | 173.6 |
| 80    | 71.9 | 76.5  | 77.1  | 79.3  | 79.6  | 82.3  | 84.6  | 85.8  | 91.1  | 98.3  | 101.7 | 98.1  | 91.9 | 174.8 |
| 100   | 75.4 | 77.0  | 78.6  | 80.3  | 80.8  | 83.4  | 85.1  | 86.6  | 92.8  | 98.8  | 102.4 | 97.8  | 91.5 | 175.3 |
| 125   | 80.4 | 85.5  | 83.4  | 84.2  | 82.9  | 84.7  | 86.2  | 87.7  | 93.4  | 98.6  | 102.7 | 98.3  | 91.0 | 175.7 |
| 160   | 82.6 | 88.3  | 86.7  | 88.1  | 86.7  | 87.0  | 87.7  | 88.7  | 94.7  | 97.4  | 102.4 | 96.2  | 88.6 | 175.3 |
| 200   | 87.6 | 89.1  | 88.2  | 88.1  | 85.7  | 87.0  | 88.4  | 89.6  | 95.9  | 96.9  | 103.1 | 94.3  | 86.3 | 175.7 |
| 250   | 87.2 | 89.4  | 89.5  | 91.4  | 88.7  | 87.2  | 88.1  | 89.7  | 95.3  | 98.1  | 101.4 | 91.5  | 84.0 | 175.2 |
| 315   | 83.1 | 87.7  | 88.3  | 91.1  | 90.4  | 91.2  | 89.0  | 90.1  | 94.4  | 97.7  | 98.7  | 89.9  | 80.6 | 174.1 |
| 400   | 81.3 | 85.2  | 86.8  | 88.4  | 89.4  | 92.1  | 90.9  | 89.9  | 94.4  | 96.4  | 96.5  | 87.1  | 77.5 | 173.2 |
| 500   | 78.7 | 82.8  | 85.0  | 87.0  | 86.7  | 90.1  | 91.1  | 90.6  | 93.9  | 95.0  | 94.8  | 85.4  | 75.7 | 172.4 |
| 630   | 76.8 | 81.5  | 83.6  | 85.6  | 85.9  | 88.5  | 89.8  | 90.8  | 93.7  | 93.6  | 92.9  | 83.5  | 73.1 | 171.7 |
| 800   | 74.7 | 79.5  | 82.5  | 85.5  | 85.9  | 88.8  | 88.6  | 90.3  | 91.8  | 91.5  | 91.6  | 81.7  | 70.7 | 170.9 |
| 1000  | 72.4 | 79.0  | 81.4  | 83.3  | 84.3  | 86.8  | 87.8  | 89.3  | 91.3  | 90.1  | 89.3  | 79.1  | 67.7 | 170.1 |
| 1250  | 71.3 | 77.3  | 80.7  | 83.4  | 84.6  | 86.8  | 87.8  | 87.7  | 89.8  | 88.4  | 88.2  | 78.2  | 65.9 | 169.9 |
| 1600  | 67.9 | 75.2  | 79.1  | 81.9  | 82.8  | 85.5  | 86.1  | 85.7  | 88.4  | 86.4  | 86.0  | 75.3  | 61.9 | 169.4 |
| 2000  | 64.7 | 73.1  | 76.3  | 80.1  | 81.4  | 83.3  | 84.9  | 83.8  | 85.9  | 83.6  | 82.7  | 71.4  | 57.1 | 168.8 |
| 2500  | 59.6 | 68.1  | 73.1  | 76.9  | 77.9  | 81.5  | 81.5  | 80.4  | 82.8  | 79.1  | 78.8  | 65.9  | 49.4 | 168.1 |
| 3150  | 52.6 | 63.2  | 69.2  | 72.3  | 73.9  | 77.8  | 77.9  | 76.2  | 77.7  | 73.7  | 69.8  | 58.6  | 38.0 | 167.2 |
| 4000  | 43.1 | 54.5  | 61.4  | 65.9  | 67.5  | 71.3  | 70.9  | 69.6  | 70.9  | 67.3  | 60.3  | 46.2  | 19.6 | 167.2 |
| 5000  | 28.5 | 42.4  | 53.1  | 55.5  | 58.4  | 63.1  | 61.3  | 60.1  | 61.4  | 57.2  | 46.6  | 29.8  |      | 167.7 |
| 6300  | 4.9  | 23.1  | 37.5  | 39.3  | 42.9  | 47.5  | 45.6  | 43.8  | 44.1  | 37.3  | 24.8  | 1.2   |      | 167.0 |
| 8000  |      |       | 14.5  | 15.5  | 20.3  | 24.7  | 21.9  | 19.5  | 17.4  | 8.4   |       |       |      | 167.9 |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |       |      | 169.5 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| CASPL | 93.0 | 96.5  | 96.7  | 98.6  | 98.0  | 99.8  | 100.2 | 100.8 | 105.2 | 108.2 | 111.5 | 106.0 | 99.4 | 186.2 |
| PNL   | 96.9 | 101.0 | 102.3 | 104.7 | 104.7 | 107.2 | 107.7 | 107.5 | 110.9 | 112.3 | 114.3 | 106.5 | 98.1 |       |
| PNLT  | 97.9 | 101.0 | 102.3 | 104.7 | 104.7 | 107.2 | 107.7 | 107.5 | 111.4 | 113.4 | 114.3 | 107.8 | 98.1 |       |
| DBA   | 85.5 | 89.8  | 91.5  | 93.9  | 94.2  | 96.6  | 97.1  | 97.4  | 100.3 | 100.7 | 101.7 | 92.9  | 84.2 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH401 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 69.4 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS <NL = RPM XNH = RPM V8 = 1719.4 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2550.5 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0627 TAPE = X06271 TEST PT NO = 0627 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SEA 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-0629 X0629C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                                        | 40.            | 50.   | 60.          | 70.        | 80.   | 90.        | 100.           | 110.  | 120.       | 130.         | 140.  | 150.           | 160.         | PWL   |
|-------------------------------------------------------------|----------------|-------|--------------|------------|-------|------------|----------------|-------|------------|--------------|-------|----------------|--------------|-------|
| 50                                                          | 89.1           | 86.4  | 85.2         | 88.2       | 86.8  | 86.9       | 88.3           | 88.7  | 90.9       | 96.5         | 96.4  | 97.3           | 97.2         | 133.9 |
| 63                                                          | 94.8           | 91.8  | 90.6         | 95.6       | 94.5  | 95.3       | 96.7           | 93.1  | 96.8       | 104.6        | 103.5 | 103.5          | 103.4        | 140.9 |
| 80                                                          | 92.5           | 96.6  | 91.3         | 93.6       | 94.0  | 96.1       | 96.7           | 94.6  | 97.3       | 98.4         | 100.0 | 101.7          | 103.9        | 139.3 |
| 100                                                         | 90.7           | 98.0  | 92.8         | 95.8       | 96.1  | 97.8       | 98.6           | 98.8  | 99.5       | 101.8        | 102.0 | 106.1          | 107.8        | 142.2 |
| 125                                                         | 86.9           | 90.2  | 91.9         | 95.5       | 95.1  | 96.2       | 97.1           | 96.2  | 98.2       | 101.8        | 108.1 | 109.8          | 111.2        | 144.4 |
| 160                                                         | 86.9           | 88.2  | 90.7         | 91.5       | 90.4  | 94.0       | 96.4           | 95.5  | 98.7       | 104.1        | 109.4 | 111.6          | 115.0        | 146.4 |
| 200                                                         | 90.5           | 90.1  | 90.1         | 93.4       | 94.0  | 96.6       | 97.0           | 97.6  | 103.3      | 106.1        | 111.0 | 114.5          | 115.9        | 148.2 |
| 250                                                         | 89.3           | 93.1  | 93.1         | 94.6       | 94.5  | 96.1       | 98.5           | 100.6 | 104.1      | 111.4        | 116.0 | 118.2          | 118.1        | 151.8 |
| 315                                                         | 90.1           | 93.4  | 91.9         | 93.9       | 95.3  | 97.9       | 99.0           | 100.4 | 106.1      | 113.2        | 118.3 | 119.3          | 118.9        | 153.3 |
| 400                                                         | 91.6           | 94.1  | 93.9         | 95.7       | 95.2  | 97.6       | 100.0          | 100.9 | 107.6      | 116.7        | 120.8 | 121.0          | 118.4        | 155.2 |
| 500                                                         | 92.3           | 95.6  | 94.6         | 96.2       | 96.8  | 99.1       | 101.0          | 102.4 | 109.6      | 118.2        | 122.3 | 121.0          | 118.2        | 156.1 |
| 630                                                         | 94.0           | 96.3  | 96.1         | 97.9       | 97.2  | 99.8       | 102.5          | 104.1 | 110.6      | 120.2        | 123.5 | 122.5          | 118.6        | 157.5 |
| 800                                                         | 97.3           | 97.6  | 98.1         | 98.9       | 98.5  | 100.9      | 103.0          | 105.4 | 112.6      | 120.2        | 125.1 | 122.5          | 118.9        | 158.3 |
| 1000                                                        | 102.8          | 105.3 | 101.6        | 102.3      | 100.7 | 102.8      | 103.9          | 106.1 | 113.6      | 120.1        | 124.8 | 122.2          | 117.8        | 158.1 |
| 1250                                                        | 103.2          | 107.9 | 105.7        | 105.6      | 103.3 | 105.0      | 105.3          | 107.8 | 114.5      | 119.0        | 125.4 | 121.1          | 115.1        | 158.1 |
| 1600                                                        | 108.3          | 108.7 | 106.6        | 106.5      | 104.0 | 105.6      | 106.5          | 108.8 | 115.9      | 119.2        | 125.6 | 119.8          | 114.3        | 158.3 |
| 2000                                                        | 108.3          | 109.1 | 107.7        | 108.9      | 106.0 | 105.6      | 106.3          | 109.4 | 115.2      | 120.0        | 124.3 | 117.4          | 112.6        | 157.5 |
| 2500                                                        | 104.4          | 107.5 | 107.3        | 107.8      | 107.9 | 108.8      | 107.7          | 109.8 | 115.2      | 120.5        | 122.0 | 116.3          | 110.8        | 156.6 |
| 3150                                                        | 102.3          | 105.8 | 106.1        | 107.1      | 107.2 | 109.5      | 109.7          | 109.6 | 115.0      | 119.5        | 120.3 | 114.7          | 109.2        | 155.7 |
| 4000                                                        | 100.5          | 104.6 | 104.7        | 105.8      | 105.5 | 108.2      | 109.6          | 110.4 | 114.6      | 118.3        | 119.5 | 113.6          | 108.3        | 154.9 |
| 5000                                                        | 99.3           | 102.9 | 103.8        | 105.7      | 105.2 | 107.2      | 108.6          | 110.7 | 114.4      | 117.8        | 118.1 | 112.1          | 106.4        | 154.3 |
| 6300                                                        | 97.2           | 102.0 | 103.1        | 105.1      | 104.7 | 107.7      | 108.2          | 110.1 | 113.9      | 115.8        | 116.6 | 110.8          | 104.8        | 153.4 |
| 8000                                                        | 96.3           | 102.3 | 102.2        | 103.6      | 104.3 | 106.8      | 107.8          | 109.1 | 112.9      | 114.7        | 114.9 | 109.1          | 103.8        | 152.6 |
| 10000                                                       | 95.4           | 100.7 | 102.0        | 104.1      | 104.4 | 106.9      | 107.9          | 108.4 | 111.8      | 113.0        | 114.4 | 108.5          | 103.0        | 152.4 |
| 12500                                                       | 93.7           | 98.9  | 101.0        | 102.7      | 103.2 | 105.9      | 106.0          | 107.0 | 110.6      | 111.9        | 113.0 | 106.7          | 101.9        | 151.8 |
| 16000                                                       | 91.0           | 98.2  | 99.3         | 101.9      | 101.7 | 103.9      | 105.7          | 105.4 | 108.7      | 109.5        | 111.0 | 104.7          | 100.4        | 151.4 |
| 20000                                                       | 88.4           | 94.9  | 96.6         | 99.1       | 99.3  | 102.8      | 102.9          | 102.6 | 106.0      | 106.7        | 108.1 | 102.2          | 96.3         | 150.5 |
| 25000                                                       | 85.2           | 92.0  | 94.5         | 96.6       | 96.4  | 99.5       | 101.2          | 99.5  | 103.0      | 103.3        | 102.5 | 99.7           | 92.4         | 149.5 |
| 31500                                                       | 81.8           | 88.8  | 90.3         | 93.2       | 93.3  | 96.4       | 96.4           | 96.2  | 100.3      | 101.6        | 99.0  | 96.2           | 89.2         | 149.6 |
| 40000                                                       | 77.7           | 84.3  | 88.2         | 88.3       | 88.9  | 93.0       | 91.6           | 92.4  | 96.5       | 99.1         | 95.8  | 92.6           | 83.8         | 150.2 |
| 50000                                                       | 71.4           | 78.4  | 85.0         | 83.1       | 83.5  | 87.4       | 86.7           | 86.8  | 91.9       | 93.4         | 90.9  | 88.1           | 78.9         | 149.4 |
| 63000                                                       | 66.4           | 72.4  | 83.4         | 77.8       | 78.8  | 82.9       | 80.9           | 82.3  | 87.3       | 89.6         | 86.9  | 84.9           | 73.4         | 150.6 |
| 80000                                                       | 60.3           | 66.1  | 81.6         | 70.9       | 72.6  | 77.1       | 74.8           | 76.0  | 81.3       | 84.6         | 81.2  | 79.8           | 64.7         | 152.3 |
| CASPL                                                       | 114.4          | 116.9 | 116.2        | 117.3      | 116.6 | 118.6      | 119.4          | 120.7 | 125.9      | 130.7        | 134.5 | 131.5          | 128.5        | 169.1 |
| PNL                                                         | 127.1          | 129.4 | 129.0        | 130.1      | 129.8 | 131.9      | 132.5          | 133.7 | 138.5      | 143.2        | 145.8 | 141.4          | 137.3        |       |
| PNLT                                                        | 127.1          | 130.2 | 129.0        | 130.1      | 129.8 | 131.9      | 132.5          | 134.2 | 138.5      | 143.2        | 145.8 | 141.4          | 137.3        |       |
| DBA                                                         | 115.0          | 117.3 | 116.4        | 117.3      | 116.4 | 118.2      | 118.8          | 120.4 | 125.8      | 130.5        | 134.3 | 130.3          | 126.0        |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166 |                |       |              |            |       |            |                |       |            |              |       |                |              |       |
| VEHICLE                                                     | = ADH402       |       | TEST DATE    | = 11-29-82 |       | LOCAT      | = C41 ANECH CH |       | CONFIG     | = 6          |       | MODEL          | = 6          |       |
| IAPLHA                                                      | = SB59         |       | IEGA         | = NO       |       | PWL AREA   | = FULL SPHERE  |       | TAMB F     | = 46.30      |       | PAMB HG        | = 29.27      |       |
| WIND DIR                                                    | =              |       | DEG WIND VEL | = MPH      |       | EXT DIST   | = 40.0 FT      |       | EXT CONFIG | = ARC        |       | MIKE HT        | =            |       |
| FNINI                                                       | = LBS XNL      |       | =            | RPM        |       | XNH        | = RPM          |       | V8         | = 1724.9 FPS |       | AE8            | = 3.4 SQ IN  |       |
| FNRAMB                                                      | = LBS XNLR     |       | =            | RPM        |       | XNHR       | = RPM          |       | V18        | = 2592.9 FPS |       | AE18           | = 18.0 SQ IN |       |
| RUNPT                                                       | = 82F-ZER-0629 |       | TAPE         | = X0629C   |       | TEST PT NO | = 0629         |       | NC         | = AE074      |       | CORR FAN SPEED | = RPM        |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-0629 X0629F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.1  | 86.4  | 85.2  | 88.2  | 86.8  | 86.9  | 88.3  | 88.7  | 90.9  | 96.5  | 96.4  | 97.3  | 97.2  | 133.9 |
| 63    | 94.8  | 91.8  | 90.6  | 95.6  | 94.5  | 95.3  | 96.7  | 93.1  | 96.8  | 104.6 | 103.5 | 103.5 | 103.4 | 140.9 |
| 80    | 92.5  | 96.6  | 91.3  | 93.6  | 94.0  | 96.1  | 96.7  | 94.6  | 97.3  | 98.4  | 100.0 | 101.7 | 103.9 | 139.3 |
| 100   | 90.7  | 98.0  | 92.8  | 95.8  | 96.1  | 97.8  | 98.6  | 98.8  | 99.5  | 101.8 | 102.0 | 106.1 | 107.8 | 142.2 |
| 125   | 86.9  | 90.2  | 91.9  | 95.5  | 95.1  | 96.2  | 97.1  | 96.2  | 98.2  | 101.8 | 108.1 | 109.8 | 111.2 | 144.4 |
| 160   | 86.9  | 88.2  | 90.7  | 91.5  | 90.4  | 94.0  | 96.4  | 95.5  | 98.7  | 104.1 | 109.4 | 111.6 | 115.0 | 146.4 |
| 200   | 90.5  | 90.1  | 90.1  | 93.4  | 94.0  | 96.6  | 97.0  | 97.6  | 103.3 | 106.1 | 111.0 | 114.5 | 115.9 | 148.2 |
| 250   | 89.3  | 93.1  | 93.1  | 94.6  | 94.5  | 96.1  | 98.5  | 100.6 | 104.1 | 111.4 | 116.0 | 118.2 | 118.1 | 151.8 |
| 315   | 90.1  | 93.4  | 91.9  | 93.9  | 95.3  | 97.9  | 99.0  | 100.4 | 106.1 | 113.2 | 118.3 | 119.3 | 118.9 | 153.3 |
| 400   | 91.8  | 94.1  | 93.9  | 95.7  | 95.2  | 97.6  | 100.0 | 100.9 | 107.6 | 116.7 | 120.8 | 121.0 | 118.4 | 155.2 |
| 500   | 92.3  | 95.6  | 94.6  | 96.2  | 96.8  | 99.1  | 101.0 | 102.4 | 109.6 | 118.2 | 122.3 | 121.0 | 118.2 | 156.1 |
| 630   | 94.0  | 96.3  | 96.1  | 97.9  | 97.2  | 99.8  | 102.5 | 104.1 | 110.6 | 120.2 | 123.5 | 122.5 | 118.6 | 157.5 |
| 800   | 97.3  | 97.6  | 98.1  | 98.9  | 98.5  | 100.9 | 103.0 | 105.4 | 112.6 | 120.2 | 125.1 | 122.5 | 118.9 | 158.3 |
| 1000  | 102.8 | 105.3 | 101.6 | 102.3 | 100.7 | 102.8 | 103.9 | 106.1 | 113.6 | 120.1 | 124.8 | 122.2 | 117.8 | 158.1 |
| 1250  | 103.2 | 107.9 | 105.7 | 105.6 | 103.3 | 105.0 | 105.3 | 107.8 | 114.5 | 119.0 | 125.4 | 121.1 | 115.1 | 158.1 |
| 1600  | 108.3 | 108.7 | 106.6 | 106.5 | 104.0 | 105.6 | 106.5 | 108.8 | 115.9 | 119.2 | 125.6 | 119.8 | 114.3 | 158.3 |
| 2000  | 108.3 | 109.1 | 107.7 | 108.9 | 106.0 | 105.6 | 106.3 | 109.4 | 115.2 | 120.0 | 124.3 | 117.4 | 112.6 | 157.5 |
| 2500  | 104.4 | 107.5 | 107.3 | 107.8 | 107.9 | 108.8 | 107.7 | 109.8 | 115.2 | 120.5 | 122.0 | 116.3 | 110.8 | 156.6 |
| 3150  | 102.3 | 105.8 | 106.1 | 107.1 | 107.2 | 109.5 | 109.7 | 109.6 | 115.0 | 119.5 | 120.3 | 114.7 | 109.2 | 155.7 |
| 4000  | 100.5 | 104.6 | 104.7 | 105.8 | 105.5 | 108.2 | 109.6 | 110.4 | 114.6 | 118.3 | 119.5 | 113.6 | 108.3 | 154.9 |
| 5000  | 99.3  | 102.9 | 103.8 | 105.7 | 105.2 | 107.2 | 108.6 | 110.7 | 114.4 | 117.8 | 118.1 | 112.1 | 106.4 | 154.3 |
| 6300  | 97.2  | 102.0 | 103.1 | 105.1 | 104.7 | 107.7 | 108.2 | 110.1 | 113.9 | 115.8 | 116.6 | 110.8 | 104.8 | 153.4 |
| 8000  | 96.3  | 102.3 | 102.2 | 103.6 | 104.3 | 105.8 | 107.8 | 109.1 | 112.9 | 114.7 | 114.9 | 109.1 | 103.8 | 152.6 |
| 10000 | 95.4  | 100.7 | 102.0 | 104.1 | 104.4 | 106.9 | 107.9 | 108.4 | 111.8 | 113.0 | 114.4 | 108.5 | 103.0 | 152.4 |
| 12500 | 93.7  | 98.9  | 101.0 | 102.7 | 103.2 | 105.9 | 106.0 | 107.0 | 110.6 | 111.9 | 113.0 | 106.7 | 101.9 | 151.8 |
| 16000 | 91.0  | 98.2  | 99.3  | 101.9 | 101.7 | 103.9 | 105.7 | 105.4 | 108.7 | 109.5 | 111.0 | 104.7 | 100.4 | 151.4 |
| 20000 | 88.4  | 94.9  | 96.6  | 99.1  | 99.3  | 102.3 | 102.9 | 102.6 | 106.0 | 106.7 | 108.1 | 102.2 | 96.3  | 150.5 |
| 25000 | 85.2  | 92.0  | 94.5  | 96.6  | 96.4  | 99.5  | 101.2 | 99.5  | 103.0 | 103.3 | 102.5 | 99.7  | 92.4  | 149.5 |
| 31500 | 81.8  | 88.8  | 90.3  | 93.2  | 93.3  | 96.4  | 96.4  | 96.2  | 100.3 | 101.6 | 99.0  | 96.2  | 89.2  | 149.6 |
| 40000 | 77.7  | 84.3  | 88.2  | 88.3  | 88.9  | 93.0  | 91.6  | 92.4  | 96.5  | 99.1  | 95.8  | 92.6  | 83.8  | 150.2 |
| 50000 | 71.4  | 78.4  | 85.0  | 83.1  | 83.5  | 87.4  | 86.7  | 86.8  | 91.9  | 93.4  | 90.9  | 88.1  | 78.9  | 149.4 |
| 63000 | 66.4  | 72.4  | 83.4  | 77.8  | 78.8  | 82.9  | 80.9  | 82.3  | 87.3  | 89.6  | 86.9  | 84.9  | 73.4  | 150.6 |
| 80000 | 60.3  | 66.1  | 81.6  | 70.9  | 72.6  | 77.1  | 74.8  | 76.0  | 81.3  | 84.6  | 81.2  | 79.8  | 64.7  | 152.3 |
| OASPL | 114.4 | 116.9 | 116.2 | 117.3 | 116.6 | 118.6 | 119.4 | 120.7 | 125.9 | 130.7 | 134.5 | 131.5 | 128.5 | 169.1 |
| PNL   | 127.1 | 129.4 | 129.0 | 130.1 | 129.8 | 131.9 | 132.5 | 133.7 | 138.5 | 143.2 | 145.8 | 141.4 | 137.3 |       |
| PNLT  | 127.1 | 130.2 | 129.0 | 130.1 | 129.8 | 131.9 | 132.5 | 134.2 | 138.5 | 143.2 | 145.8 | 141.4 | 137.3 |       |
| DBA   | 182.4 | 188.4 | 202.3 | 193.3 | 194.6 | 199.0 | 196.9 | 198.1 | 203.2 | 206.2 | 202.9 | 201.3 | 188.0 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |       |         |   |       |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|-------|---------|---|-------|--------|---|----------|
| VEHICLE  | = | ADH402 | TEST DATE | = | 11-29-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 6     | MODEL   | = | 6     | FLTVEL | = | 0. FPS   |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 46.30 | PAMB HG | = | 29.27 | RELHUM | = | 70.1 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 40.0 FT      | EXT CONFIG | = | ARC   | MIKE HT | = |       | NBFR   | = |          |

|       |   |     |      |   |     |      |   |     |     |   |            |      |   |            |
|-------|---|-----|------|---|-----|------|---|-----|-----|---|------------|------|---|------------|
| FNIN1 | = | LBS | XNL  | = | RPM | XNH  | = | RPM | V8  | = | 1724.9 FPS | A28  | = | 3.4 SQ IN  |
| FNAMB | = | LBS | XNLR | = | RPM | XNHR | = | RPM | V18 | = | 2592.9 FPS | AE18 | = | 18.0 SQ IN |

RUNPT = 82F-ZER-0629 TAPE = X0629F TEST PT NO = 0629 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-0629 X06291

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 70.5 | 74.3  | 75.2  | 77.7  | 77.7  | 80.2  | 82.4  | 82.9  | 88.9  | 96.9  | 99.5  | 97.5  | 91.6 | 173.3 |
| 63    | 71.0 | 75.8  | 75.9  | 78.2  | 79.2  | 81.7  | 83.4  | 84.4  | 90.9  | 98.4  | 101.0 | 97.5  | 91.3 | 174.3 |
| 80    | 72.7 | 76.5  | 77.3  | 79.6  | 79.6  | 82.3  | 84.8  | 85.1  | 91.8  | 100.3 | 102.2 | 98.9  | 91.6 | 175.6 |
| 100   | 75.9 | 77.7  | 79.3  | 80.8  | 80.8  | 83.4  | 85.3  | 87.3  | 93.8  | 100.3 | 103.6 | 98.8  | 91.8 | 176.4 |
| 125   | 81.2 | 85.3  | 82.7  | 84.2  | 82.9  | 85.2  | 86.2  | 87.9  | 94.7  | 100.1 | 103.2 | 98.3  | 90.5 | 176.3 |
| 160   | 81.4 | 87.8  | 86.7  | 87.3  | 85.5  | 87.2  | 87.5  | 89.5  | 95.4  | 98.9  | 103.6 | 97.0  | 87.4 | 176.3 |
| 200   | 86.3 | 88.4  | 87.4  | 88.1  | 86.0  | 87.8  | 88.4  | 90.3  | 96.7  | 98.9  | 103.6 | 95.3  | 86.0 | 176.4 |
| 250   | 85.9 | 88.4  | 88.3  | 90.2  | 87.7  | 87.5  | 88.1  | 90.7  | 95.8  | 99.4  | 101.9 | 92.5  | 83.7 | 175.7 |
| 315   | 81.6 | 86.5  | 87.5  | 88.8  | 89.4  | 90.4  | 89.2  | 90.9  | 95.4  | 99.5  | 99.2  | 90.9  | 81.1 | 174.8 |
| 400   | 79.0 | 84.5  | 86.0  | 87.9  | 88.4  | 90.9  | 90.9  | 90.4  | 94.9  | 98.2  | 97.0  | 88.6  | 78.5 | 173.8 |
| 500   | 76.7 | 82.8  | 84.2  | 86.3  | 86.5  | 89.3  | 90.6  | 90.9  | 94.1  | 96.5  | 95.8  | 86.9  | 76.7 | 173.1 |
| 630   | 75.0 | 80.8  | 83.0  | 85.9  | 85.9  | 88.0  | 89.2  | 90.8  | 93.6  | 95.6  | 93.9  | 84.7  | 73.6 | 172.4 |
| 800   | 72.5 | 79.4  | 82.0  | 85.0  | 85.1  | 88.3  | 88.6  | 90.0  | 92.8  | 93.3  | 91.9  | 82.7  | 71.0 | 171.5 |
| 1000  | 71.1 | 79.5  | 80.9  | 83.3  | 84.5  | 87.3  | 88.0  | 88.8  | 91.6  | 91.9  | 89.8  | 80.4  | 68.7 | 170.7 |
| 1250  | 69.8 | 77.5  | 80.5  | 83.6  | 84.6  | 87.2  | 88.1  | 87.9  | 90.3  | 89.9  | 88.7  | 79.0  | 66.6 | 170.5 |
| 1600  | 67.2 | 75.2  | 79.1  | 81.9  | 83.1  | 86.0  | 85.9  | 86.2  | 88.7  | 88.1  | 86.4  | 75.8  | 63.1 | 170.0 |
| 2000  | 63.5 | 73.8  | 77.0  | 80.8  | 81.4  | 83.8  | 85.4  | 84.3  | 86.4  | 85.1  | 83.5  | 72.1  | 58.6 | 169.5 |
| 2500  | 59.1 | 69.4  | 73.4  | 77.3  | 78.4  | 82.2  | 82.0  | 80.8  | 82.8  | 81.1  | 78.8  | 66.9  | 49.6 | 168.6 |
| 3150  | 52.6 | 64.0  | 69.4  | 73.3  | 74.2  | 77.6  | 78.9  | 76.2  | 77.9  | 75.2  | 69.9  | 59.4  | 37.3 | 167.7 |
| 4000  | 42.9 | 56.0  | 61.4  | 66.7  | 68.0  | 71.6  | 71.1  | 69.7  | 71.4  | 68.8  | 60.1  | 47.0  | 19.6 | 167.8 |
| 5000  | 29.0 | 43.9  | 53.1  | 56.3  | 58.7  | 63.4  | 61.4  | 60.4  | 61.4  | 58.7  | 47.2  | 29.6  |      | 168.3 |
| 6300  | 4.9  | 23.9  | 37.8  | 40.4  | 43.2  | 47.8  | 46.4  | 44.1  | 44.7  | 38.9  | 24.4  | 1.0   |      | 167.6 |
| 8000  |      |       | 14.8  | 15.9  | 20.4  | 25.6  | 22.5  | 20.4  | 18.8  | 10.2  |       |       |      | 168.7 |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |       |      | 170.4 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 91.8 | 95.8  | 96.1  | 97.9  | 97.5  | 99.6  | 100.2 | 101.2 | 105.8 | 109.9 | 112.2 | 106.7 | 99.2 | 186.9 |
| PNL   | 95.7 | 100.6 | 101.8 | 104.2 | 104.5 | 107.1 | 107.9 | 107.9 | 111.4 | 114.0 | 114.9 | 107.0 | 98.1 |       |
| PNLT  | 96.9 | 100.6 | 101.8 | 104.2 | 104.5 | 107.1 | 108.4 | 107.9 | 111.9 | 115.1 | 116.0 | 108.3 | 98.1 |       |
| DBA   | 84.0 | 89.4  | 91.0  | 93.5  | 93.9  | 96.5  | 97.1  | 97.6  | 100.7 | 102.4 | 102.3 | 93.9  | 84.3 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH402 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.27 RELHUM = 70.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1724.9 FPS AEB = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2592.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-0629 TAPE = X06291 TEST PT NO = 0629 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-0630 X0630C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                   | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|---------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ                                                                                              |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50                                                                                                | 89.9  | 88.2  | 84.4  | 85.0  | 84.6  | 84.4  | 87.8  | 88.5  | 89.9  | 89.2  | 96.9  | 97.3  | 101.2 | 133.8 |
| 63                                                                                                | 91.3  | 93.0  | 90.6  | 89.6  | 90.9  | 91.3  | 95.4  | 92.6  | 96.1  | 95.6  | 103.5 | 103.2 | 102.1 | 138.8 |
| 80                                                                                                | 92.8  | 97.1  | 91.8  | 93.9  | 93.5  | 95.8  | 95.7  | 94.4  | 96.8  | 96.7  | 99.0  | 101.2 | 104.1 | 138.9 |
| 100                                                                                               | 90.5  | 95.7  | 91.3  | 93.3  | 94.4  | 95.8  | 96.6  | 97.3  | 98.0  | 98.3  | 100.5 | 105.1 | 107.3 | 140.7 |
| 125                                                                                               | 88.9  | 90.7  | 91.7  | 94.5  | 94.6  | 95.7  | 96.1  | 95.2  | 96.7  | 98.8  | 105.9 | 108.6 | 111.0 | 143.2 |
| 160                                                                                               | 85.9  | 84.5  | 89.0  | 88.3  | 88.1  | 90.5  | 91.9  | 91.3  | 96.0  | 99.3  | 106.4 | 108.6 | 112.8 | 143.6 |
| 200                                                                                               | 87.5  | 87.8  | 86.1  | 88.6  | 89.0  | 91.6  | 93.0  | 94.4  | 99.6  | 100.6 | 106.8 | 111.0 | 113.4 | 144.8 |
| 250                                                                                               | 84.8  | 88.6  | 87.8  | 89.9  | 90.5  | 92.1  | 94.5  | 96.9  | 99.8  | 105.9 | 111.5 | 115.0 | 115.4 | 148.1 |
| 315                                                                                               | 86.3  | 86.9  | 87.6  | 89.9  | 90.5  | 93.4  | 94.8  | 96.4  | 102.1 | 107.5 | 113.8 | 116.0 | 115.7 | 149.4 |
| 400                                                                                               | 87.6  | 88.6  | 89.4  | 90.2  | 91.5  | 93.6  | 95.3  | 96.2  | 103.6 | 111.4 | 117.1 | 117.8 | 115.2 | 151.4 |
| 500                                                                                               | 87.6  | 90.6  | 90.9  | 92.2  | 92.8  | 94.9  | 96.0  | 98.4  | 105.1 | 113.7 | 119.1 | 118.0 | 111.4 | 152.4 |
| 630                                                                                               | 89.3  | 91.3  | 91.8  | 93.1  | 93.5  | 96.1  | 98.2  | 99.9  | 106.3 | 115.9 | 120.0 | 117.2 | 108.9 | 153.1 |
| 800                                                                                               | 91.3  | 91.9  | 93.1  | 94.2  | 94.3  | 96.9  | 98.5  | 101.4 | 109.1 | 115.7 | 120.8 | 116.3 | 106.9 | 153.4 |
| 1000                                                                                              | 97.0  | 97.3  | 96.3  | 97.1  | 95.9  | 98.6  | 99.7  | 102.6 | 110.1 | 115.9 | 121.0 | 114.4 | 105.4 | 153.4 |
| 1250                                                                                              | 102.2 | 104.2 | 100.7 | 100.1 | 98.8  | 100.7 | 100.8 | 104.0 | 111.0 | 115.5 | 121.2 | 113.1 | 103.9 | 153.6 |
| 1600                                                                                              | 104.6 | 105.7 | 104.6 | 104.5 | 101.0 | 101.9 | 103.0 | 105.3 | 112.4 | 116.0 | 121.8 | 112.8 | 104.0 | 154.4 |
| 2000                                                                                              | 103.5 | 105.3 | 104.7 | 106.9 | 105.2 | 103.1 | 103.0 | 105.9 | 112.0 | 117.0 | 121.3 | 111.1 | 103.9 | 154.3 |
| 2500                                                                                              | 100.4 | 103.2 | 102.3 | 105.0 | 104.6 | 107.5 | 104.7 | 106.8 | 112.2 | 117.7 | 119.7 | 110.5 | 102.8 | 153.8 |
| 3150                                                                                              | 99.5  | 101.8 | 100.3 | 102.3 | 103.2 | 106.2 | 107.4 | 107.6 | 112.7 | 117.5 | 118.0 | 108.9 | 101.4 | 153.1 |
| 4000                                                                                              | 99.2  | 101.0 | 99.6  | 102.0 | 101.7 | 103.7 | 105.8 | 107.9 | 113.0 | 116.0 | 117.0 | 107.8 | 100.5 | 152.2 |
| 5000                                                                                              | 98.7  | 100.6 | 98.5  | 101.9 | 101.1 | 103.6 | 105.2 | 107.6 | 113.1 | 115.2 | 115.2 | 105.5 | 99.3  | 151.5 |
| 6300                                                                                              | 98.3  | 100.3 | 98.4  | 102.0 | 101.3 | 104.3 | 104.6 | 107.5 | 112.0 | 113.6 | 113.7 | 105.0 | 98.2  | 150.7 |
| 8000                                                                                              | 97.8  | 100.6 | 98.2  | 101.4 | 101.5 | 103.1 | 104.5 | 106.9 | 111.9 | 112.7 | 111.4 | 103.4 | 97.3  | 150.2 |
| 10000                                                                                             | 97.4  | 99.7  | 97.9  | 102.5 | 102.4 | 104.2 | 104.4 | 107.1 | 110.5 | 110.9 | 110.6 | 103.3 | 96.8  | 149.9 |
| 12500                                                                                             | 96.2  | 98.3  | 96.9  | 101.3 | 101.4 | 103.9 | 103.7 | 104.6 | 109.7 | 109.2 | 108.9 | 101.4 | 95.6  | 149.4 |
| 16000                                                                                             | 93.9  | 97.1  | 94.2  | 100.5 | 99.6  | 102.6 | 103.4 | 104.0 | 108.1 | 107.1 | 106.9 | 100.1 | 94.1  | 149.2 |
| 20000                                                                                             | 90.5  | 93.5  | 91.6  | 97.9  | 97.6  | 100.9 | 100.7 | 101.6 | 106.3 | 104.0 | 104.2 | 97.6  | 90.9  | 148.6 |
| 25000                                                                                             | 87.7  | 91.2  | 90.0  | 95.0  | 95.6  | 98.4  | 98.9  | 98.4  | 103.0 | 100.8 | 100.0 | 95.4  | 89.6  | 148.0 |
| 31500                                                                                             | 84.0  | 87.7  | 87.2  | 91.8  | 92.1  | 95.4  | 94.2  | 95.0  | 100.2 | 98.9  | 97.1  | 92.0  | 85.8  | 148.1 |
| 40000                                                                                             | 79.5  | 83.4  | 85.9  | 87.5  | 88.1  | 91.9  | 91.5  | 91.6  | 96.7  | 96.4  | 93.9  | 88.0  | 80.9  | 148.9 |
| 50000                                                                                             | 73.0  | 78.0  | 86.1  | 81.5  | 83.1  | 87.1  | 85.5  | 86.5  | 91.8  | 91.4  | 89.7  | 83.5  | 74.8  | 148.5 |
| 63000                                                                                             | 67.9  | 72.7  | 86.0  | 76.1  | 78.0  | 81.7  | 79.8  | 81.9  | 87.2  | 89.0  | 85.9  | 78.5  | 68.6  | 150.1 |
| 80000                                                                                             | 60.7  | 66.1  | 84.8  | 69.9  | 71.9  | 76.2  | 73.4  | 74.8  | 81.0  | 85.4  | 79.9  | 72.0  | 60.1  | 152.7 |
| 0ASPL                                                                                             | 111.6 | 113.6 | 112.2 | 114.4 | 113.7 | 115.7 | 116.2 | 118.1 | 123.5 | 127.4 | 131.0 | 126.5 | 123.3 | 165.9 |
| PNL                                                                                               | 123.9 | 125.8 | 124.7 | 126.8 | 126.4 | 128.7 | 129.5 | 130.9 | 136.2 | 140.4 | 142.8 | 136.1 | 131.1 |       |
| PNLT                                                                                              | 123.9 | 125.8 | 124.7 | 127.5 | 127.0 | 128.7 | 129.5 | 130.9 | 136.2 | 140.4 | 142.8 | 136.1 | 131.1 |       |
| DBA                                                                                               | 111.8 | 113.7 | 112.3 | 114.2 | 113.3 | 115.1 | 115.5 | 117.6 | 123.2 | 127.4 | 130.9 | 124.3 | 118.0 |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| VEHICLE = ADH411 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 55.40 PAMB HG = 29.47 RELHUM = 71.0 PCT   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FNINT = LBS XNL = RPM XNH = RPM V8 = 1705.8 FPS AE8 = 3.4 SQ IN                                   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2590.9 FPS AE18 = 18.0 SQ IN                             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| RUNPT = 82F-400-0630 TAPE = X0630C TEST PT NO = 0630 NC = AE075 CORR FAN SPEED = RPM              |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

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FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-0630 X0630F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 92.6  | 95.0  | 92.7  | 93.2  | 92.1  | 92.1  | 92.6  | 93.3  | 98.7  | 103.1 | 109.0 | 111.6 | 113.1 | 145.5 |
| 315   | 92.6  | 95.0  | 92.7  | 93.1  | 92.3  | 93.6  | 93.4  | 93.6  | 100.4 | 107.4 | 112.6 | 114.1 | 114.0 | 147.9 |
| 400   | 94.0  | 95.3  | 92.6  | 93.3  | 93.3  | 93.9  | 94.0  | 93.4  | 103.6 | 111.8 | 117.2 | 117.6 | 114.5 | 151.4 |
| 500   | 95.2  | 95.0  | 94.3  | 93.6  | 94.7  | 95.2  | 95.3  | 96.8  | 104.6 | 113.8 | 118.2 | 117.5 | 113.9 | 152.1 |
| 630   | 95.3  | 97.0  | 95.9  | 95.6  | 95.4  | 96.5  | 97.3  | 97.9  | 107.8 | 114.1 | 119.7 | 118.0 | 114.8 | 153.1 |
| 800   | 97.0  | 97.7  | 96.9  | 96.6  | 96.3  | 97.4  | 97.7  | 99.5  | 109.1 | 114.7 | 120.6 | 117.5 | 115.8 | 153.7 |
| 1000  | 98.8  | 98.2  | 98.1  | 97.7  | 97.5  | 99.2  | 99.0  | 100.7 | 109.9 | 114.3 | 120.6 | 116.0 | 114.2 | 153.3 |
| 1250  | 102.6 | 101.9 | 99.9  | 99.7  | 100.6 | 101.5 | 100.2 | 102.1 | 111.5 | 114.8 | 121.4 | 115.7 | 114.6 | 154.1 |
| 1600  | 109.1 | 109.9 | 105.0 | 103.1 | 103.0 | 102.9 | 102.6 | 103.6 | 111.3 | 116.1 | 121.0 | 114.3 | 114.6 | 154.4 |
| 2000  | 111.3 | 111.2 | 108.9 | 107.5 | 107.3 | 104.3 | 102.9 | 104.4 | 111.8 | 117.1 | 119.7 | 113.9 | 113.8 | 154.5 |
| 2500  | 108.5 | 109.7 | 108.5 | 109.8 | 107.6 | 109.1 | 104.9 | 105.7 | 112.8 | 117.3 | 118.3 | 112.6 | 112.6 | 154.2 |
| 3150  | 108.0 | 109.8 | 107.7 | 109.2 | 106.4 | 108.3 | 108.0 | 106.9 | 113.8 | 116.3 | 117.7 | 111.6 | 111.7 | 153.9 |
| 4000  | 107.1 | 108.5 | 105.9 | 106.7 | 105.4 | 106.2 | 107.0 | 107.8 | 113.8 | 115.4 | 115.8 | 109.1 | 109.8 | 152.8 |
| 5000  | 106.7 | 107.7 | 105.4 | 106.7 | 105.2 | 106.6 | 106.7 | 107.6 | 112.8 | 114.0 | 114.4 | 108.8 | 109.1 | 152.1 |
| 6300  | 106.1 | 107.3 | 104.3 | 106.7 | 105.4 | 107.3 | 106.0 | 107.5 | 112.8 | 113.2 | 112.2 | 107.2 | 108.1 | 151.6 |
| 8000  | 105.6 | 106.9 | 104.1 | 106.7 | 105.6 | 106.1 | 106.0 | 106.9 | 111.9 | 111.8 | 111.9 | 107.9 | 108.8 | 151.4 |
| 10000 | 105.0 | 107.0 | 103.7 | 105.9 | 106.4 | 107.2 | 106.0 | 107.3 | 111.5 | 110.6 | 110.8 | 106.6 | 108.4 | 151.6 |
| 12500 | 104.3 | 105.8 | 103.2 | 106.8 | 105.4 | 106.9 | 105.5 | 105.0 | 110.8 | 109.4 | 109.8 | 106.4 | 108.1 | 151.6 |
| 16000 | 102.5 | 103.9 | 101.6 | 105.0 | 104.2 | 105.6 | 105.5 | 104.7 | 109.4 | 106.7 | 107.4 | 104.3 | 105.4 | 151.4 |
| 20000 | 102.6 | 104.5 | 100.3 | 105.0 | 102.2 | 103.9 | 102.8 | 102.4 | 107.4 | 105.0 | 104.9 | 103.8 | 105.5 | 151.7 |
| 25000 | 98.6  | 100.4 | 97.1  | 101.7 | 100.2 | 101.4 | 101.2 | 99.7  | 104.9 | 103.2 | 102.1 | 100.4 | 101.8 | 151.4 |
| 31500 | 95.0  | 97.3  | 94.6  | 98.1  | 96.7  | 98.4  | 96.3  | 95.9  | 101.5 | 100.7 | 98.5  | 95.5  | 95.4  | 151.0 |
| 40000 | 90.5  | 92.9  | 91.0  | 94.1  | 92.7  | 94.9  | 93.2  | 91.9  | 96.9  | 96.0  | 94.6  | 91.4  | 89.6  | 150.9 |
| 50000 | 85.6  | 88.2  | 90.3  | 89.4  | 87.7  | 90.1  | 87.2  | 86.7  | 93.1  | 94.4  | 91.6  | 87.3  | 84.3  | 151.5 |
| 63000 | 78.2  | 81.9  | 88.6  | 82.4  | 82.0  | 84.7  | 81.4  | 82.0  | 88.4  | 92.4  | 87.2  | 82.3  | 77.3  | 152.8 |
| 80000 | 68.8  | 72.9  | 85.2  | 74.4  | 76.0  | 79.2  | 74.9  | 74.6  | 78.6  | 82.5  | 77.4  | 72.4  | 67.4  | 152.3 |
| CASPL | 118.3 | 119.3 | 116.8 | 118.1 | 116.9 | 117.8 | 117.0 | 117.5 | 123.8 | 126.8 | 130.3 | 126.8 | 125.6 | 166.5 |
| PNL   | 130.2 | 131.4 | 129.2 | 130.2 | 128.6 | 129.7 | 129.2 | 129.6 | 136.0 | 139.0 | 141.3 | 136.5 | 136.2 |       |
| PNLT  | 130.2 | 131.4 | 129.2 | 130.2 | 128.6 | 129.7 | 129.2 | 129.6 | 136.0 | 139.0 | 141.3 | 136.5 | 136.2 |       |
| DBA   | 192.9 | 196.5 | 206.2 | 197.6 | 198.1 | 201.0 | 197.2 | 197.2 | 202.3 | 205.9 | 201.0 | 196.2 | 191.8 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |            |         |   |            |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|------------|---------|---|------------|--------|---|----------|
| VEHICL   | = | ADH411 | TEST DATE | = | 11-30-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 6          | MODEL   | = | 6          | FLTVEL | = | 400. FPS |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 55.40      | PAMB HG | = | 29.47      | RELHUM | = | 71.0 PCT |
| WIND DIR | = |        | DEG       |   |          | EXT DIST | = | 40.0 FT      | EXT CONFIG | = | ARC        | MIKE HT | = |            | NBFR   | = |          |
| FNIN1    | = | LBS    | XNL       | = |          | RPM      |   |              | V8         | = | 1705.8 FPS | AE8     | = | 3.4 SQ IN  |        |   |          |
| FNRAMB   | = | LBS    | XNLR      | = |          | RPM      |   |              | V18        | = | 2590.9 FPS | AE18    | = | 18.0 SQ IN |        |   |          |

RUNPT = 82F-400-0630 TAPE = X0630F TEST PT NO = 0630 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-0630 X06301

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 72.7 | 75.5 | 73.9 | 75.3 | 75.8 | 76.4 | 76.4 | 75.4 | 84.9 | 92.0 | 95.9 | 94.1 | 87.7 | 169.5 |
| 63    | 73.9 | 75.2 | 75.6 | 75.6 | 77.1 | 77.8 | 77.7 | 78.8 | 85.9 | 94.0 | 96.9 | 94.0 | 87.0 | 170.2 |
| 80    | 73.9 | 77.2 | 77.1 | 77.6 | 77.8 | 79.0 | 79.7 | 79.8 | 89.0 | 94.2 | 98.3 | 94.4 | 87.8 | 171.3 |
| 100   | 75.5 | 77.9 | 78.1 | 78.6 | 78.6 | 79.9 | 80.0 | 81.4 | 90.3 | 94.8 | 99.1 | 93.8 | 88.6 | 171.8 |
| 125   | 77.2 | 78.2 | 79.2 | 79.6 | 79.8 | 81.6 | 81.3 | 82.6 | 91.0 | 94.3 | 99.0 | 92.1 | 86.9 | 171.5 |
| 160   | 80.8 | 81.8 | 80.9 | 81.4 | 82.8 | 83.8 | 82.4 | 83.8 | 92.5 | 94.7 | 99.6 | 91.6 | 86.8 | 172.2 |
| 200   | 87.0 | 89.5 | 85.8 | 84.6 | 84.9 | 85.0 | 84.5 | 85.1 | 92.1 | 95.7 | 99.0 | 89.8 | 86.4 | 172.5 |
| 250   | 88.9 | 90.6 | 89.4 | 88.9 | 89.1 | 86.3 | 84.7 | 85.8 | 92.4 | 96.5 | 97.4 | 89.1 | 84.9 | 172.6 |
| 315   | 85.7 | 88.7 | 88.7 | 90.9 | 89.1 | 90.8 | 86.4 | 86.7 | 93.0 | 96.3 | 95.6 | 87.2 | 82.9 | 172.4 |
| 400   | 84.7 | 88.4 | 87.6 | 89.9 | 87.7 | 89.6 | 89.2 | 87.6 | 93.7 | 94.9 | 84.4 | 85.6 | 81.0 | 172.0 |
| 500   | 83.3 | 86.7 | 85.5 | 87.2 | 86.3 | 87.3 | 87.9 | 88.2 | 93.3 | 93.6 | 92.1 | 82.4 | 78.1 | 170.9 |
| 630   | 82.5 | 85.5 | 84.6 | 86.8 | 85.8 | 87.4 | 87.3 | 87.7 | 92.1 | 91.8 | 90.2 | 81.4 | 76.4 | 170.2 |
| 800   | 81.4 | 84.8 | 83.2 | 86.6 | 85.8 | 87.9 | 86.4 | 87.4 | 91.8 | 90.6 | 87.5 | 79.1 | 74.2 | 169.8 |
| 1000  | 80.4 | 84.1 | 82.8 | 86.4 | 85.9 | 86.6 | 86.2 | 86.6 | 90.6 | 89.0 | 86.8 | 79.1 | 73.8 | 169.6 |
| 1250  | 79.3 | 83.8 | 82.2 | 85.5 | 86.6 | 87.5 | 86.1 | 86.8 | 90.0 | 87.4 | 85.1 | 77.0 | 72.0 | 169.7 |
| 1600  | 77.7 | 82.0 | 81.2 | 86.0 | 85.3 | 86.9 | 85.4 | 84.2 | 88.8 | 85.6 | 83.2 | 75.5 | 69.3 | 169.8 |
| 2000  | 75.0 | 79.5 | 79.3 | 84.0 | 83.9 | 85.5 | 85.2 | 83.7 | 87.1 | 82.3 | 79.9 | 71.7 | 63.6 | 169.6 |
| 2500  | 73.3 | 78.9 | 77.1 | 83.3 | 81.4 | 83.3 | 82.0 | 80.7 | 84.2 | 79.4 | 75.6 | 68.4 | 58.7 | 169.9 |
| 3150  | 66.0 | 72.3 | 72.0 | 78.5 | 78.0 | 79.5 | 78.9 | 76.4 | 79.8 | 75.2 | 69.4 | 60.1 | 46.7 | 169.5 |
| 4000  | 56.1 | 64.5 | 65.7 | 71.6 | 71.5 | 73.6 | 71.1 | 69.4 | 72.5 | 67.9 | 59.6 | 46.2 | 25.7 | 169.1 |
| 5000  | 41.8 | 52.6 | 55.9 | 62.1 | 62.4 | 65.3 | 63.0 | 59.9 | 61.8 | 55.7 | 45.9 | 28.5 |      | 169.0 |
| 6300  | 19.2 | 33.7 | 43.1 | 46.6 | 47.4 | 50.6 | 46.9 | 43.9 | 45.9 | 39.9 | 25.2 | 0.2  |      | 169.6 |
| 8000  |      | 2.6  | 20.0 | 20.4 | 23.6 | 27.4 | 23.0 | 20.0 | 19.9 | 13.0 |      |      |      | 170.9 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 170.5 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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|       |       |       |       |       |       |       |       |       |       |       |       |       |      |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 0ASPL | 94.9  | 97.7  | 96.5  | 98.4  | 97.7  | 98.7  | 97.6  | 97.7  | 103.5 | 105.8 | 108.1 | 102.2 | 96.7 | 184.5 |
| PNL   | 100.7 | 103.8 | 102.9 | 106.7 | 105.9 | 107.3 | 106.5 | 105.7 | 110.4 | 110.7 | 110.9 | 103.0 | 97.9 |       |
| PNLT  | 100.7 | 104.5 | 103.5 | 107.3 | 105.9 | 107.3 | 106.5 | 105.7 | 111.0 | 111.3 | 110.9 | 104.2 | 97.9 |       |
| DBA   | 90.1  | 93.7  | 92.5  | 95.7  | 95.1  | 96.5  | 95.5  | 95.3  | 99.8  | 99.3  | 98.5  | 90.2  | 85.4 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH411 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 55.40 PAMB HG = 29.47 RELHUM = 71.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1705.8 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2590.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-0630 TAPE = X06301 TEST PT NO = 0630 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-1619 X1619C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.9  | 80.4  | 81.4  | 80.0  | 80.8  | 81.2  | 84.1  | 81.0  | 86.9  | 87.5  | 88.1  | 95.6  | 94.5  | 129.0 |
| 63    | 86.0  | 87.3  | 87.8  | 84.9  | 86.0  | 88.3  | 92.5  | 84.4  | 94.1  | 96.1  | 93.5  | 103.0 | 101.1 | 136.0 |
| 80    | 86.5  | 91.6  | 85.8  | 88.1  | 87.7  | 90.1  | 91.5  | 88.6  | 90.8  | 91.4  | 93.3  | 96.2  | 97.4  | 133.2 |
| 100   | 84.7  | 90.7  | 86.5  | 88.5  | 89.4  | 90.8  | 91.6  | 92.3  | 93.3  | 92.3  | 95.7  | 100.4 | 102.1 | 135.7 |
| 125   | 84.1  | 86.4  | 88.7  | 90.7  | 90.3  | 90.7  | 91.1  | 90.5  | 91.9  | 93.3  | 100.4 | 103.6 | 106.0 | 138.2 |
| 160   | 82.4  | 82.5  | 86.5  | 86.0  | 86.4  | 88.5  | 89.9  | 88.0  | 92.2  | 92.8  | 100.7 | 104.4 | 108.3 | 139.0 |
| 200   | 83.3  | 87.6  | 86.3  | 88.6  | 88.0  | 89.3  | 92.0  | 93.6  | 96.6  | 96.4  | 103.5 | 107.5 | 110.4 | 141.7 |
| 250   | 82.0  | 91.1  | 87.8  | 88.1  | 88.7  | 92.1  | 94.5  | 94.9  | 97.3  | 100.9 | 107.5 | 111.5 | 113.1 | 145.0 |
| 315   | 84.6  | 89.1  | 87.9  | 90.7  | 91.5  | 93.4  | 94.3  | 95.4  | 99.6  | 101.7 | 109.8 | 113.3 | 115.4 | 147.0 |
| 400   | 84.6  | 89.3  | 89.9  | 89.9  | 90.2  | 92.4  | 94.7  | 95.7  | 100.6 | 106.2 | 112.8 | 115.5 | 115.9 | 148.8 |
| 500   | 86.6  | 91.1  | 90.4  | 91.2  | 91.5  | 93.9  | 95.3  | 96.9  | 100.9 | 108.0 | 114.3 | 116.5 | 116.2 | 149.9 |
| 630   | 87.8  | 92.6  | 91.8  | 93.1  | 93.0  | 94.6  | 97.2  | 97.9  | 102.1 | 108.7 | 116.8 | 117.7 | 116.9 | 151.3 |
| 800   | 91.6  | 92.6  | 93.4  | 94.7  | 94.3  | 96.4  | 97.5  | 98.9  | 104.1 | 109.2 | 117.1 | 118.5 | 117.7 | 152.0 |
| 1000  | 99.0  | 101.8 | 101.6 | 101.6 | 98.9  | 98.8  | 98.9  | 99.8  | 104.6 | 109.1 | 116.8 | 118.4 | 118.3 | 152.2 |
| 1250  | 100.9 | 103.9 | 100.5 | 101.9 | 102.1 | 104.5 | 104.6 | 102.3 | 105.5 | 108.3 | 115.7 | 118.6 | 117.6 | 152.1 |
| 1600  | 107.8 | 107.5 | 105.6 | 103.8 | 100.3 | 100.4 | 102.2 | 102.3 | 107.4 | 108.7 | 115.1 | 119.0 | 118.3 | 152.5 |
| 2000  | 108.8 | 109.3 | 107.5 | 108.1 | 105.2 | 102.3 | 100.8 | 102.4 | 106.2 | 108.8 | 114.0 | 117.4 | 115.9 | 151.9 |
| 2500  | 105.4 | 108.0 | 107.3 | 108.0 | 106.9 | 107.3 | 103.9 | 102.6 | 105.4 | 108.5 | 112.5 | 115.0 | 113.1 | 150.8 |
| 3150  | 102.8 | 105.8 | 105.9 | 105.9 | 105.5 | 107.5 | 106.4 | 103.4 | 106.0 | 107.3 | 110.6 | 112.7 | 111.2 | 149.6 |
| 4000  | 101.5 | 104.1 | 104.2 | 104.1 | 103.5 | 105.5 | 106.4 | 105.4 | 106.3 | 106.3 | 109.8 | 112.1 | 108.3 | 148.7 |
| 5000  | 99.5  | 103.2 | 103.1 | 103.7 | 103.0 | 104.0 | 104.6 | 105.2 | 107.7 | 105.6 | 108.4 | 110.4 | 106.6 | 147.9 |
| 6300  | 98.2  | 101.8 | 102.1 | 103.2 | 102.7 | 104.4 | 103.7 | 103.7 | 107.2 | 104.3 | 106.9 | 107.9 | 105.1 | 147.1 |
| 8000  | 96.3  | 100.6 | 100.7 | 101.1 | 101.3 | 102.6 | 103.3 | 102.4 | 105.9 | 103.8 | 104.7 | 105.2 | 103.3 | 146.0 |
| 10000 | 95.4  | 99.3  | 100.3 | 101.3 | 102.0 | 102.9 | 103.2 | 102.7 | 104.1 | 102.6 | 103.7 | 105.3 | 103.3 | 146.1 |
| 12500 | 93.2  | 97.7  | 99.0  | 100.2 | 100.0 | 101.7 | 102.0 | 101.5 | 103.9 | 100.9 | 101.7 | 103.0 | 101.7 | 145.6 |
| 16000 | 91.2  | 96.1  | 97.0  | 98.8  | 98.6  | 99.8  | 100.7 | 99.8  | 102.4 | 99.2  | 100.7 | 101.6 | 99.6  | 145.4 |
| 20000 | 88.0  | 93.0  | 94.9  | 95.9  | 96.7  | 98.7  | 98.5  | 97.4  | 99.8  | 96.8  | 98.0  | 98.4  | 96.7  | 144.8 |
| 25000 | 85.0  | 90.9  | 92.7  | 93.8  | 94.2  | 96.0  | 96.7  | 94.4  | 96.7  | 92.9  | 94.0  | 96.2  | 93.7  | 144.5 |
| 31500 | 81.1  | 87.5  | 88.6  | 90.3  | 90.6  | 93.5  | 92.7  | 91.2  | 93.6  | 90.3  | 90.3  | 92.6  | 90.1  | 144.2 |
| 40000 | 76.9  | 82.6  | 86.8  | 85.7  | 86.3  | 89.4  | 88.5  | 87.5  | 89.6  | 86.5  | 86.4  | 89.8  | 84.5  | 144.3 |
| 50000 | 70.4  | 76.3  | 83.6  | 79.6  | 80.8  | 84.1  | 83.2  | 81.8  | 84.5  | 80.7  | 80.8  | 84.3  | 79.2  | 143.5 |
| 63000 | 64.8  | 71.1  | 82.1  | 74.2  | 75.7  | 79.2  | 77.5  | 76.9  | 79.1  | 74.7  | 76.4  | 80.3  | 73.3  | 144.3 |
| 80000 | 58.3  | 63.7  | 79.7  | 67.3  | 69.3  | 72.9  | 71.0  | 69.7  | 71.9  | 68.9  | 70.3  | 75.5  | 65.5  | 146.1 |

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GASPL 114.1 115.9 115.1 115.5 114.5 115.6 115.4 114.7 117.8 119.6 125.6 128.0 127.5 163.0  
PNL 126.7 128.7 128.1 128.6 127.7 129.0 128.6 128.0 130.5 131.7 136.4 139.0 138.0  
PNLT 126.7 129.9 129.6 129.8 127.7 130.6 130.0 128.0 130.5 131.7 136.4 139.0 138.0  
DBA 114.9 116.5 115.6 115.9 114.6 115.5 115.1 114.3 117.4 119.2 125.1 127.6 126.6

NASA DUAL FLOW SHOCK CELL/CONV. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH394 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 42.10 PAMB HG = 29.32 RELHUM = 76.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1668.0 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 1746.1 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-1619 TAPE = X1619C TEST PT NO = 1619 NC = AE074 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-1619 X1619F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 81.9  | 80.4  | 81.4  | 80.0  | 80.8  | 81.2  | 84.1  | 81.0  | 86.9  | 87.5  | 88.1  | 95.6  | 94.5  | 129.0 |
| 63    | 86.0  | 87.3  | 87.8  | 84.9  | 86.0  | 88.3  | 92.5  | 84.4  | 94.1  | 96.1  | 93.5  | 103.0 | 101.1 | 136.0 |
| 80    | 86.5  | 91.6  | 85.8  | 88.1  | 87.7  | 90.1  | 91.5  | 88.6  | 90.8  | 91.4  | 93.3  | 96.2  | 97.4  | 133.2 |
| 100   | 84.7  | 90.7  | 86.5  | 88.5  | 89.4  | 90.8  | 91.6  | 92.3  | 93.3  | 92.3  | 95.7  | 100.4 | 102.1 | 135.7 |
| 125   | 84.1  | 86.4  | 88.7  | 90.7  | 90.3  | 90.7  | 91.1  | 90.5  | 91.9  | 93.3  | 100.4 | 103.6 | 106.0 | 138.2 |
| 160   | 82.4  | 82.5  | 86.5  | 86.0  | 86.4  | 88.5  | 89.9  | 88.0  | 92.2  | 92.8  | 100.7 | 104.4 | 108.3 | 139.0 |
| 200   | 83.3  | 87.6  | 86.3  | 88.6  | 88.0  | 89.3  | 92.0  | 93.6  | 96.6  | 96.4  | 103.5 | 107.5 | 110.4 | 141.7 |
| 250   | 82.0  | 91.1  | 87.8  | 88.1  | 88.7  | 92.1  | 94.5  | 94.9  | 97.3  | 100.9 | 107.5 | 111.5 | 113.1 | 145.0 |
| 315   | 84.6  | 89.1  | 87.9  | 90.7  | 91.5  | 93.4  | 94.3  | 95.4  | 99.6  | 101.7 | 109.8 | 113.3 | 115.4 | 147.0 |
| 400   | 84.6  | 89.3  | 89.9  | 89.9  | 90.2  | 92.4  | 94.7  | 95.7  | 100.6 | 106.2 | 112.8 | 115.5 | 115.9 | 148.8 |
| 500   | 86.6  | 91.1  | 90.4  | 91.2  | 91.5  | 93.9  | 95.3  | 96.9  | 100.9 | 108.0 | 114.3 | 116.5 | 116.2 | 149.9 |
| 630   | 87.8  | 92.6  | 91.8  | 93.1  | 93.0  | 94.6  | 97.2  | 97.9  | 102.1 | 108.7 | 116.8 | 117.7 | 116.9 | 151.3 |
| 800   | 91.6  | 92.6  | 93.4  | 94.7  | 94.3  | 96.4  | 97.5  | 98.9  | 104.1 | 109.2 | 117.1 | 118.5 | 117.7 | 152.0 |
| 1000  | 99.0  | 101.8 | 101.6 | 101.6 | 98.9  | 98.8  | 98.9  | 99.8  | 104.6 | 109.1 | 116.8 | 118.4 | 118.3 | 152.2 |
| 1250  | 100.9 | 103.9 | 100.5 | 101.9 | 102.1 | 104.5 | 104.6 | 102.3 | 105.5 | 108.3 | 115.7 | 118.6 | 117.6 | 152.1 |
| 1600  | 107.8 | 107.5 | 105.6 | 103.8 | 100.3 | 100.4 | 102.2 | 102.3 | 107.4 | 108.7 | 115.1 | 119.0 | 118.3 | 152.5 |
| 2000  | 108.8 | 109.3 | 107.5 | 108.1 | 105.2 | 102.3 | 100.8 | 102.4 | 106.2 | 108.8 | 114.0 | 117.4 | 115.9 | 151.9 |
| 2500  | 105.4 | 108.0 | 107.3 | 108.0 | 106.9 | 107.3 | 103.9 | 102.6 | 105.4 | 108.5 | 112.5 | 115.0 | 113.1 | 150.8 |
| 3150  | 102.8 | 105.8 | 105.9 | 105.9 | 105.5 | 107.5 | 106.4 | 103.4 | 106.0 | 107.3 | 110.6 | 112.7 | 111.2 | 149.6 |
| 4000  | 101.5 | 104.1 | 104.2 | 104.1 | 103.5 | 105.5 | 106.4 | 105.4 | 106.3 | 106.3 | 109.8 | 112.1 | 108.3 | 148.7 |
| 5000  | 99.5  | 103.2 | 103.1 | 103.7 | 103.0 | 104.0 | 104.6 | 105.2 | 107.7 | 105.6 | 108.4 | 110.4 | 106.6 | 147.9 |
| 6300  | 98.2  | 101.8 | 102.1 | 103.2 | 102.7 | 104.4 | 103.7 | 103.7 | 107.2 | 104.3 | 106.9 | 107.9 | 105.1 | 147.1 |
| 8000  | 96.3  | 100.6 | 100.7 | 101.1 | 101.3 | 102.6 | 103.3 | 102.4 | 105.9 | 103.8 | 104.7 | 105.2 | 103.3 | 146.0 |
| 10000 | 95.4  | 99.3  | 100.3 | 101.3 | 102.0 | 102.9 | 103.2 | 102.7 | 104.1 | 102.6 | 103.7 | 105.3 | 103.3 | 146.1 |
| 12500 | 93.2  | 97.7  | 99.0  | 100.2 | 100.0 | 101.7 | 102.0 | 101.5 | 103.9 | 100.9 | 101.7 | 103.0 | 101.7 | 145.6 |
| 16000 | 91.2  | 96.1  | 97.0  | 98.8  | 98.6  | 99.8  | 100.7 | 99.8  | 102.4 | 99.2  | 100.7 | 101.6 | 99.6  | 145.4 |
| 20000 | 88.0  | 93.0  | 94.9  | 95.9  | 96.7  | 98.7  | 98.5  | 97.4  | 99.3  | 96.8  | 98.0  | 98.4  | 96.7  | 144.8 |
| 25000 | 85.0  | 90.9  | 92.7  | 93.8  | 94.2  | 96.0  | 96.7  | 94.4  | 96.7  | 92.9  | 94.0  | 96.2  | 93.7  | 144.5 |
| 31500 | 81.1  | 87.5  | 88.6  | 90.3  | 90.6  | 93.5  | 92.7  | 91.2  | 93.6  | 90.3  | 90.3  | 92.6  | 90.1  | 144.2 |
| 40000 | 76.9  | 82.6  | 86.8  | 85.7  | 86.3  | 89.4  | 88.5  | 87.5  | 89.6  | 86.5  | 86.4  | 89.8  | 84.5  | 144.3 |
| 50000 | 70.4  | 76.3  | 83.6  | 79.6  | 80.8  | 84.1  | 83.2  | 81.8  | 84.5  | 80.7  | 80.8  | 84.3  | 79.2  | 143.5 |
| 63000 | 64.8  | 71.1  | 82.1  | 74.2  | 75.7  | 79.2  | 77.5  | 76.9  | 79.1  | 74.7  | 76.4  | 80.3  | 73.3  | 144.3 |
| 80000 | 58.3  | 63.7  | 79.7  | 67.3  | 69.3  | 72.9  | 71.0  | 69.7  | 71.9  | 68.9  | 70.3  | 75.5  | 65.5  | 146.1 |

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OF POOR QUALITY

OASPL 114.1 115.9 115.1 115.5 114.5 115.6 115.4 114.7 117.8 119.6 125.6 128.0 127.5 163.0  
 PNL 126.7 128.7 128.1 128.6 127.7 129.0 128.6 128.0 130.5 131.7 136.4 139.0 138.0  
 PNLT 126.7 129.9 129.6 129.8 127.7 130.6 130.0 128.0 130.5 131.7 136.4 139.0 138.0  
 DBA 180.6 186.4 200.5 189.7 191.5 195.0 193.3 192.2 194.4 190.9 192.3 197.0 188.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CGAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH394 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 42.10 PAMB HG = 29.32 RELHUM = 76.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1668.0 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1746.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1619 TAPE = X1619F TEST PT NO = 1619 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-1619 X16191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 63.3 | 69.6  | 71.2  | 71.9  | 72.7  | 74.9  | 77.2  | 77.7  | 81.9  | 86.4  | 91.5  | 92.0  | 89.1 | 167.0 |
| 63    | 65.3 | 71.3  | 71.7  | 73.2  | 73.9  | 76.4  | 77.7  | 78.9  | 82.2  | 88.2  | 93.0  | 93.0  | 89.3 | 168.0 |
| 80    | 66.4 | 72.7  | 73.1  | 75.1  | 75.3  | 77.1  | 79.6  | 79.8  | 83.3  | 88.8  | 95.4  | 94.1  | 89.9 | 169.5 |
| 100   | 70.1 | 72.7  | 74.6  | 76.6  | 76.6  | 78.8  | 79.8  | 80.8  | 85.3  | 89.3  | 95.6  | 94.8  | 90.5 | 170.1 |
| 125   | 77.4 | 81.8  | 82.7  | 83.4  | 81.2  | 81.2  | 81.2  | 81.7  | 85.7  | 89.1  | 95.2  | 94.6  | 91.0 | 170.3 |
| 160   | 79.1 | 83.8  | 81.4  | 83.6  | 84.2  | 86.7  | 86.7  | 84.0  | 86.4  | 88.1  | 93.9  | 94.5  | 89.9 | 170.2 |
| 200   | 85.8 | 87.1  | 86.4  | 85.3  | 82.2  | 82.5  | 84.2  | 83.8  | 88.2  | 88.4  | 93.1  | 94.6  | 90.0 | 170.7 |
| 250   | 86.4 | 88.7  | 88.0  | 89.4  | 87.0  | 84.2  | 82.6  | 83.7  | 86.8  | 88.1  | 91.7  | 92.5  | 87.0 | 170.0 |
| 315   | 82.6 | 87.0  | 87.5  | 89.1  | 88.4  | 88.9  | 85.5  | 83.6  | 85.7  | 87.5  | 89.7  | 89.6  | 83.4 | 168.9 |
| 400   | 79.5 | 84.5  | 85.8  | 86.6  | 86.7  | 88.9  | 87.6  | 84.1  | 85.9  | 85.9  | 87.3  | 86.6  | 80.5 | 167.7 |
| 500   | 77.7 | 82.3  | 83.8  | 84.5  | 84.5  | 86.6  | 87.3  | 85.9  | 85.9  | 84.5  | 86.0  | 85.4  | 76.7 | 166.9 |
| 630   | 75.3 | 81.0  | 82.3  | 83.9  | 83.7  | 84.8  | 85.3  | 85.3  | 86.9  | 83.4  | 84.1  | 83.0  | 73.9 | 166.1 |
| 800   | 73.5 | 79.2  | 81.0  | 83.0  | 83.1  | 85.0  | 84.1  | 83.5  | 86.1  | 81.8  | 82.1  | 79.8  | 71.2 | 165.2 |
| 1000  | 71.1 | 77.8  | 79.4  | 80.8  | 81.6  | 83.0  | 83.6  | 82.1  | 84.6  | 80.9  | 79.5  | 76.4  | 68.3 | 164.1 |
| 1250  | 69.8 | 76.1  | 78.8  | 80.9  | 82.1  | 83.3  | 83.3  | 82.2  | 82.6  | 79.4  | 78.0  | 75.7  | 66.9 | 164.2 |
| 1600  | 66.7 | 73.9  | 77.1  | 79.4  | 79.8  | 81.8  | 81.9  | 80.7  | 81.9  | 77.1  | 75.2  | 72.0  | 62.9 | 163.7 |
| 2000  | 63.7 | 71.8  | 74.7  | 77.8  | 78.3  | 79.8  | 80.4  | 78.8  | 80.1  | 74.8  | 73.2  | 69.1  | 57.8 | 163.5 |
| 2500  | 58.7 | 67.5  | 71.7  | 74.2  | 75.8  | 78.1  | 77.6  | 75.7  | 76.6  | 71.2  | 68.7  | 63.0  | 50.0 | 162.9 |
| 3150  | 52.3 | 62.9  | 67.6  | 70.5  | 71.9  | 74.1  | 74.4  | 71.2  | 71.6  | 64.9  | 61.3  | 55.9  | 38.6 | 162.6 |
| 4000  | 42.2 | 54.8  | 59.7  | 63.8  | 65.4  | 68.7  | 67.5  | 64.7  | 64.7  | 57.5  | 51.4  | 43.3  | 20.5 | 162.4 |
| 5000  | 28.2 | 42.2  | 51.7  | 53.7  | 56.1  | 59.8  | 58.3  | 55.5  | 54.5  | 46.2  | 37.7  | 26.8  |      | 162.5 |
| 6300  | 3.9  | 21.8  | 36.4  | 36.8  | 40.5  | 44.6  | 42.9  | 39.0  | 37.3  | 26.2  | 14.3  |       |      | 161.6 |
| 8000  |      |       | 13.6  | 12.2  | 17.3  | 21.9  | 19.1  | 14.9  | 10.6  |       |       |       |      | 162.5 |
| 10000 |      |       |       |       |       |       |       |       |       |       |       |       |      | 164.3 |
| 12500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 91.5 | 94.8  | 95.1  | 96.2  | 95.6  | 96.7  | 96.2  | 95.1  | 97.5  | 98.7  | 103.5 | 103.3 | 99.0 | 180.9 |
| PNL   | 95.5 | 99.8  | 100.7 | 102.4 | 102.2 | 103.8 | 103.4 | 102.0 | 103.8 | 102.5 | 105.1 | 104.9 | 99.3 |       |
| PNLT  | 96.7 | 100.4 | 101.5 | 103.0 | 102.2 | 104.6 | 104.1 | 102.0 | 104.3 | 102.5 | 106.2 | 104.9 | 99.3 |       |
| DBA   | 84.3 | 88.8  | 90.1  | 91.6  | 91.7  | 93.2  | 92.9  | 91.7  | 93.3  | 90.9  | 92.5  | 92.0  | 86.0 |       |

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OF FOUR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/MAS3-23166

VEHICL = ADH394 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 42.10 PAMB HG = 29.32 RELHUM = 76.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1668.0 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1746.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-1619 TAPE = X16191 TEST PT NO = 1619 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-1620 X1620C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.4  | 86.2  | 80.9  | 81.7  | 80.3  | 81.2  | 83.3  | 82.5  | 84.4  | 84.5  | 90.4  | 91.6  | 96.0  | 128.7 |
| 63    | 91.3  | 92.0  | 86.8  | 86.9  | 84.7  | 86.8  | 90.9  | 87.1  | 90.1  | 87.6  | 93.3  | 94.2  | 96.1  | 132.4 |
| 80    | 87.8  | 91.3  | 86.1  | 88.1  | 87.0  | 89.1  | 89.7  | 88.4  | 91.1  | 91.9  | 92.8  | 95.0  | 97.9  | 132.9 |
| 100   | 85.0  | 89.5  | 85.0  | 86.8  | 87.6  | 88.8  | 89.4  | 90.5  | 91.0  | 90.6  | 93.2  | 98.1  | 101.3 | 134.0 |
| 125   | 83.1  | 84.4  | 86.2  | 88.0  | 87.8  | 88.4  | 88.8  | 87.7  | 89.4  | 91.3  | 97.9  | 100.8 | 103.7 | 135.7 |
| 160   | 80.9  | 80.7  | 84.0  | 83.3  | 83.6  | 85.2  | 87.1  | 84.8  | 89.0  | 91.3  | 98.4  | 101.9 | 106.0 | 136.7 |
| 200   | 83.0  | 83.3  | 81.6  | 83.1  | 84.0  | 85.6  | 88.5  | 88.6  | 92.1  | 92.6  | 98.8  | 103.5 | 106.9 | 137.7 |
| 250   | 80.5  | 83.6  | 82.3  | 83.6  | 84.5  | 86.6  | 88.5  | 89.6  | 92.3  | 97.2  | 103.3 | 107.2 | 108.1 | 140.4 |
| 315   | 82.1  | 84.6  | 82.6  | 84.9  | 85.8  | 87.4  | 90.0  | 89.9  | 94.6  | 98.5  | 105.3 | 108.0 | 108.7 | 141.5 |
| 400   | 81.6  | 83.1  | 83.8  | 84.7  | 85.0  | 87.1  | 89.0  | 89.9  | 96.1  | 102.4 | 108.3 | 110.3 | 107.2 | 143.3 |
| 500   | 82.6  | 84.9  | 84.4  | 85.9  | 86.8  | 88.9  | 89.8  | 91.7  | 96.1  | 103.7 | 109.6 | 110.3 | 104.2 | 143.6 |
| 630   | 83.5  | 85.3  | 85.1  | 87.1  | 86.7  | 89.3  | 91.5  | 93.1  | 97.6  | 105.7 | 111.8 | 110.5 | 100.1 | 144.9 |
| 800   | 87.6  | 89.1  | 90.6  | 87.9  | 90.0  | 91.1  | 92.3  | 94.2  | 100.1 | 106.0 | 111.6 | 108.5 | 97.9  | 144.5 |
| 1000  | 96.0  | 94.3  | 90.8  | 91.6  | 89.9  | 91.8  | 92.7  | 94.8  | 100.3 | 105.6 | 110.5 | 105.2 | 95.9  | 143.5 |
| 1250  | 105.7 | 107.2 | 101.7 | 100.1 | 94.3  | 94.0  | 94.8  | 96.5  | 101.2 | 105.3 | 108.9 | 102.3 | 95.1  | 144.9 |
| 1600  | 108.6 | 109.0 | 107.9 | 107.5 | 102.5 | 98.4  | 96.7  | 97.0  | 102.6 | 105.2 | 107.3 | 101.3 | 96.0  | 147.2 |
| 2000  | 107.0 | 108.1 | 107.2 | 108.9 | 107.9 | 105.8 | 99.3  | 97.9  | 101.7 | 105.7 | 105.8 | 98.6  | 94.6  | 147.9 |
| 2500  | 104.1 | 105.2 | 104.3 | 106.5 | 106.1 | 108.5 | 105.7 | 100.8 | 101.9 | 105.7 | 103.7 | 98.5  | 92.3  | 147.2 |
| 3150  | 103.5 | 104.3 | 102.1 | 103.3 | 103.9 | 106.2 | 106.6 | 103.1 | 103.2 | 104.3 | 102.3 | 95.2  | 91.2  | 146.1 |
| 4000  | 102.2 | 103.5 | 101.1 | 102.8 | 101.7 | 102.9 | 103.3 | 104.9 | 105.0 | 103.7 | 101.7 | 94.8  | 90.8  | 145.2 |
| 5000  | 100.9 | 102.1 | 99.5  | 102.4 | 101.4 | 102.9 | 101.5 | 102.3 | 106.3 | 104.7 | 101.5 | 94.8  | 91.0  | 144.9 |
| 6300  | 99.8  | 100.6 | 98.1  | 102.0 | 101.1 | 102.8 | 101.6 | 101.2 | 105.5 | 104.4 | 100.7 | 94.7  | 90.4  | 144.5 |
| 8000  | 98.3  | 99.9  | 96.4  | 100.4 | 99.8  | 101.4 | 101.1 | 100.1 | 103.6 | 103.5 | 99.4  | 93.2  | 89.3  | 143.6 |
| 10000 | 97.4  | 98.7  | 95.4  | 100.0 | 99.9  | 101.7 | 101.2 | 100.1 | 101.5 | 101.2 | 98.3  | 93.5  | 89.0  | 143.4 |
| 12500 | 95.7  | 97.3  | 93.9  | 98.3  | 98.6  | 100.4 | 99.9  | 98.6  | 102.2 | 99.5  | 87.1  | 91.9  | 88.4  | 143.2 |
| 16000 | 93.2  | 95.8  | 91.7  | 97.0  | 96.6  | 98.3  | 98.6  | 98.3  | 101.1 | 98.1  | 96.4  | 92.4  | 88.1  | 143.2 |
| 20000 | 90.7  | 92.7  | 89.6  | 95.1  | 94.9  | 96.9  | 97.0  | 96.4  | 99.3  | 96.5  | 95.4  | 90.6  | 85.9  | 143.1 |
| 25000 | 87.1  | 90.9  | 88.4  | 92.2  | 92.6  | 95.1  | 95.1  | 93.4  | 96.4  | 93.5  | 92.7  | 90.1  | 84.6  | 143.1 |
| 31500 | 84.2  | 87.1  | 86.1  | 89.7  | 89.7  | 91.6  | 91.3  | 90.4  | 93.4  | 90.7  | 89.3  | 86.9  | 81.9  | 143.1 |
| 40000 | 79.4  | 82.4  | 86.2  | 84.8  | 85.4  | 88.7  | 87.6  | 86.4  | 90.0  | 86.7  | 85.7  | 83.1  | 76.7  | 143.5 |
| 50000 | 73.0  | 77.0  | 85.6  | 79.5  | 80.1  | 83.3  | 82.3  | 81.2  | 84.7  | 80.3  | 79.6  | 77.8  | 70.8  | 143.1 |
| 63000 | 67.3  | 71.6  | 85.8  | 73.8  | 75.4  | 78.6  | 76.7  | 76.3  | 79.3  | 75.0  | 73.7  | 73.4  | 64.8  | 145.0 |
| 80000 | 60.0  | 65.3  | 84.3  | 66.5  | 69.0  | 72.0  | 69.7  | 69.3  | 71.8  | 68.4  | 66.7  | 66.8  | 56.9  | 148.4 |

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CASPL 114.4 115.4 113.4 114.9 113.7 114.5 113.3 112.3 115.1 116.8 119.7 118.3 116.0 159.0  
PNL 126.1 127.2 125.6 127.3 126.4 127.9 127.1 126.0 128.0 129.1 129.4 126.4 123.2  
PNLT 126.1 129.0 127.7 127.3 127.6 127.9 127.1 126.0 128.0 129.1 129.4 126.4 123.2  
DBA 115.1 116.0 114.2 115.4 114.1 114.8 113.2 111.9 114.5 116.5 118.6 115.4 110.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH410 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 LEGA = NO PWL AREA = FULL SPHERE TAMB F = 53.60 PAMB HQ = 29.47 RELHUM = 74.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM VB = 1687.9 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1740.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1620 TAPE = X1620C TEST PT NO = 1620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40 C FT. ARC

IDENTIFICATION - 82F-400-1620 X1620F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.2  | 89.2  | 86.7  | 86.6  | 85.9  | 86.6  | 86.6  | 86.0  | 91.2  | 94.1  | 100.5 | 103.6 | 106.1 | 137.9 |
| 315   | 87.2  | 89.2  | 86.7  | 86.6  | 87.4  | 87.6  | 88.7  | 87.1  | 92.9  | 98.4  | 103.8 | 106.6 | 106.0 | 139.9 |
| 400   | 88.7  | 90.3  | 87.1  | 88.0  | 86.8  | 87.4  | 87.7  | 87.2  | 94.2  | 101.1 | 106.8 | 108.7 | 105.9 | 141.9 |
| 500   | 88.6  | 89.1  | 88.3  | 87.9  | 88.7  | 89.2  | 89.0  | 89.9  | 96.0  | 103.8 | 110.2 | 111.0 | 105.3 | 144.2 |
| 630   | 90.2  | 91.2  | 89.3  | 89.4  | 88.6  | 89.7  | 90.7  | 91.3  | 98.9  | 104.5 | 110.7 | 110.4 | 105.9 | 144.5 |
| 800   | 90.8  | 91.5  | 89.9  | 90.5  | 91.7  | 91.7  | 91.5  | 92.3  | 99.5  | 104.7 | 110.3 | 108.4 | 106.4 | 144.0 |
| 1000  | 93.0  | 93.8  | 94.5  | 90.7  | 91.7  | 92.4  | 92.1  | 93.1  | 100.6 | 104.5 | 108.9 | 105.8 | 105.9 | 143.0 |
| 1250  | 103.3 | 100.3 | 95.4  | 94.7  | 96.5  | 94.8  | 94.4  | 94.9  | 102.7 | 105.2 | 108.0 | 105.3 | 107.3 | 144.0 |
| 1600  | 113.3 | 113.6 | 106.8 | 103.7 | 105.3 | 99.4  | 96.7  | 96.0  | 102.7 | 106.6 | 107.3 | 103.5 | 106.8 | 149.3 |
| 2000  | 118.9 | 117.6 | 114.7 | 112.3 | 110.1 | 107.1 | 100.0 | 97.7  | 104.1 | 108.1 | 107.0 | 103.1 | 106.0 | 154.2 |
| 2500  | 112.3 | 112.6 | 111.0 | 111.8 | 109.0 | 110.1 | 106.8 | 101.4 | 105.9 | 107.4 | 106.4 | 102.8 | 106.2 | 151.5 |
| 3150  | 111.3 | 111.5 | 109.5 | 110.6 | 106.9 | 108.3 | 108.2 | 104.3 | 107.3 | 105.8 | 104.5 | 101.1 | 105.0 | 150.6 |
| 4000  | 109.4 | 109.7 | 106.8 | 107.2 | 104.9 | 105.5 | 105.3 | 106.0 | 108.1 | 106.1 | 103.4 | 100.2 | 104.3 | 149.0 |
| 5000  | 107.1 | 108.1 | 105.3 | 106.4 | 105.3 | 105.9 | 103.6 | 103.2 | 107.5 | 106.0 | 102.9 | 100.5 | 104.0 | 148.1 |
| 6300  | 107.1 | 107.9 | 104.7 | 106.8 | 105.1 | 105.8 | 103.7 | 102.3 | 105.9 | 105.4 | 102.1 | 99.4  | 103.4 | 148.0 |
| 8000  | 107.1 | 107.1 | 103.8 | 106.7 | 103.8 | 104.4 | 103.3 | 101.3 | 105.2 | 104.9 | 102.8 | 101.5 | 104.3 | 147.8 |
| 10000 | 105.2 | 106.1 | 101.8 | 104.8 | 104.0 | 104.7 | 103.6 | 102.0 | 106.1 | 103.3 | 101.8 | 100.0 | 103.9 | 147.7 |
| 12500 | 104.3 | 104.8 | 100.7 | 104.3 | 102.7 | 103.4 | 102.4 | 100.4 | 105.6 | 102.5 | 101.6 | 100.9 | 103.8 | 147.6 |
| 16000 | 102.0 | 102.9 | 98.6  | 102.0 | 100.6 | 101.3 | 101.1 | 100.1 | 103.9 | 101.1 | 100.8 | 99.3  | 102.0 | 147.3 |
| 20000 | 99.1  | 101.0 | 96.0  | 100.4 | 98.9  | 99.9  | 99.4  | 98.1  | 102.0 | 98.9  | 98.5  | 98.9  | 100.2 | 147.1 |
| 25000 | 96.1  | 97.3  | 93.3  | 97.8  | 96.6  | 98.1  | 97.5  | 95.3  | 99.7  | 96.9  | 95.7  | 96.3  | 98.1  | 147.1 |
| 31500 | 91.7  | 94.7  | 91.3  | 94.2  | 93.8  | 94.6  | 93.8  | 92.4  | 97.1  | 93.9  | 93.6  | 94.3  | 95.0  | 147.2 |
| 40000 | 87.9  | 90.0  | 88.2  | 90.8  | 90.0  | 91.7  | 90.0  | 88.3  | 92.3  | 88.0  | 88.0  | 89.5  | 89.6  | 147.0 |
| 50000 | 85.4  | 87.3  | 89.6  | 86.7  | 84.1  | 86.3  | 84.7  | 83.1  | 87.8  | 83.7  | 83.1  | 86.1  | 84.6  | 147.6 |
| 63000 | 75.4  | 78.6  | 86.3  | 79.3  | 79.2  | 81.6  | 79.2  | 78.2  | 81.8  | 78.5  | 77.6  | 81.1  | 78.4  | 147.5 |
| 80000 | 66.8  | 70.7  | 84.4  | 71.6  | 73.1  | 75.0  | 72.2  | 71.2  | 72.0  | 68.7  | 67.8  | 71.3  | 68.6  | 149.3 |
| 8ASPL | 122.2 | 121.9 | 118.7 | 118.8 | 116.7 | 116.7 | 114.9 | 113.1 | 117.1 | 117.7 | 119.4 | 118.4 | 118.3 | 162.0 |
| PNL   | 134.7 | 134.1 | 131.2 | 130.9 | 128.8 | 129.2 | 127.8 | 126.0 | 129.5 | 129.7 | 129.7 | 127.4 | 129.4 |       |
| PNLT  | 136.7 | 137.2 | 134.1 | 133.0 | 128.8 | 129.2 | 127.8 | 126.0 | 129.5 | 129.7 | 129.7 | 127.4 | 129.4 |       |
| DBA   | 191.0 | 194.1 | 205.2 | 194.6 | 195.1 | 197.2 | 194.6 | 193.6 | 195.9 | 192.5 | 181.7 | 195.0 | 192.6 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH410 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 53.60 PAMB HG = 29.47 RELHUM = 74.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.9 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1740.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1620 TAPE = X1620F TEST PT NO = 1620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-1620 X16201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 67.4 | 70.5 | 68.4 | 70.0 | 69.2 | 69.9 | 70.1 | 69.2 | 75.5 | 81.4 | 85.5 | 85.2 | 79.1 | 160.0 |
| 63    | 67.3 | 69.3 | 69.6 | 69.9 | 71.1 | 71.8 | 71.5 | 71.9 | 77.3 | 84.0 | 88.9 | 87.4 | 78.4 | 162.4 |
| 80    | 68.8 | 71.4 | 70.6 | 71.3 | 71.0 | 72.3 | 73.0 | 73.2 | 80.2 | 84.7 | 89.3 | 86.8 | 78.9 | 162.7 |
| 100   | 69.3 | 71.6 | 71.1 | 72.5 | 74.0 | 74.1 | 73.9 | 74.2 | 80.7 | 84.8 | 88.9 | 84.7 | 79.3 | 162.2 |
| 125   | 71.4 | 73.8 | 75.6 | 72.5 | 73.9 | 74.8 | 74.3 | 74.9 | 81.7 | 84.5 | 87.3 | 81.9 | 78.5 | 161.2 |
| 160   | 81.5 | 80.2 | 76.4 | 76.4 | 78.6 | 77.0 | 76.5 | 76.6 | 83.6 | 85.0 | 86.3 | 81.2 | 79.6 | 162.1 |
| 200   | 91.3 | 93.3 | 87.6 | 85.3 | 87.2 | 81.5 | 78.6 | 77.5 | 83.5 | 86.2 | 85.3 | 79.1 | 78.5 | 167.5 |
| 250   | 96.6 | 97.0 | 95.2 | 93.6 | 91.8 | 89.0 | 81.8 | 79.1 | 84.6 | 87.5 | 84.6 | 78.3 | 77.2 | 172.4 |
| 315   | 89.6 | 91.6 | 91.2 | 92.8 | 90.5 | 91.8 | 88.3 | 82.5 | 86.2 | 86.4 | 83.6 | 77.4 | 76.5 | 169.6 |
| 400   | 88.1 | 90.2 | 89.4 | 91.3 | 88.1 | 89.6 | 89.4 | 85.0 | 87.2 | 84.4 | 81.2 | 75.1 | 74.3 | 168.7 |
| 500   | 85.6 | 87.9 | 86.3 | 87.6 | 85.9 | 86.6 | 86.2 | 86.5 | 87.6 | 84.3 | 79.7 | 73.5 | 72.6 | 167.1 |
| 630   | 82.9 | 86.0 | 84.6 | 86.6 | 85.9 | 86.7 | 84.3 | 83.4 | 86.7 | 83.9 | 78.7 | 73.1 | 71.3 | 166.3 |
| 800   | 82.4 | 85.4 | 83.6 | 86.7 | 85.5 | 86.4 | 84.1 | 82.1 | 84.8 | 82.9 | 77.3 | 71.3 | 69.5 | 166.1 |
| 1000  | 81.9 | 84.3 | 82.5 | 86.4 | 84.1 | 84.8 | 83.5 | 81.0 | 83.9 | 82.0 | 77.7 | 72.7 | 69.3 | 165.9 |
| 1250  | 79.5 | 82.9 | 80.3 | 84.4 | 84.1 | 85.0 | 83.7 | 81.5 | 84.5 | 80.2 | 76.1 | 70.5 | 67.5 | 165.8 |
| 1600  | 77.7 | 81.0 | 78.7 | 83.5 | 82.5 | 83.4 | 82.2 | 79.6 | 83.6 | 78.7 | 75.0 | 70.0 | 65.0 | 165.8 |
| 2000  | 74.5 | 78.6 | 76.3 | 81.0 | 80.3 | 81.2 | 80.8 | 79.1 | 81.6 | 76.7 | 73.3 | 66.8 | 60.2 | 165.4 |
| 2500  | 69.8 | 75.4 | 72.8 | 78.6 | 78.0 | 79.3 | 78.5 | 76.4 | 78.8 | 73.3 | 69.2 | 63.5 | 53.4 | 165.3 |
| 3150  | 63.4 | 69.3 | 68.2 | 74.6 | 74.4 | 76.2 | 75.3 | 72.1 | 74.6 | 68.8 | 63.1 | 55.9 | 42.9 | 165.2 |
| 4000  | 52.8 | 61.9 | 62.4 | 67.6 | 68.6 | 69.8 | 68.6 | 65.9 | 68.2 | 61.1 | 54.7 | 45.0 | 25.4 | 165.3 |
| 5000  | 39.2 | 49.7 | 53.1 | 58.9 | 59.8 | 62.1 | 59.8 | 56.4 | 57.2 | 47.7 | 39.3 | 26.5 |      | 165.2 |
| 6300  | 19.0 | 32.7 | 42.4 | 43.9 | 43.8 | 46.8 | 44.4 | 40.4 | 40.6 | 29.1 | 16.7 |      |      | 165.7 |
| 8000  |      |      | 17.8 | 17.3 | 20.8 | 24.3 | 20.7 | 16.2 | 13.2 |      |      |      |      | 165.7 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 167.4 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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OF POOR QUALITY.

|       |       |       |       |       |       |       |       |       |       |       |      |      |      |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|------|-------|
| OASPL | 99.4  | 100.8 | 98.8  | 99.4  | 97.8  | 97.8  | 95.7  | 93.2  | 96.5  | 96.4  | 97.1 | 93.6 | 88.6 | 180.1 |
| PNL   | 104.4 | 106.2 | 104.4 | 105.5 | 104.2 | 104.8 | 103.3 | 101.0 | 104.2 | 101.8 | 99.6 | 94.4 | 90.7 |       |
| PNLT  | 105.4 | 107.7 | 105.9 | 106.2 | 104.2 | 104.8 | 103.3 | 101.0 | 104.8 | 101.8 | 99.6 | 94.4 | 90.7 |       |
| DBA   | 93.0  | 95.0  | 93.3  | 95.5  | 94.0  | 94.7  | 93.2  | 91.0  | 93.7  | 91.0  | 87.3 | 81.6 | 79.3 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH410 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 53.60 PAMB HG = 29.47 RELHUM = 74.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1687.9 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 1740.2 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-1620 TAPE = X16201 TEST PT NO = 1620 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7609 X7609C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.4 | 83.4 | 81.4 | 82.2 | 82.3 | 80.9 | 83.3  | 85.2  | 86.7  | 86.5  | 94.6  | 95.3  | 95.2  | 130.3 |
| 63    | 88.0 | 90.5 | 87.6 | 89.9 | 89.9 | 89.6 | 92.2  | 91.1  | 94.6  | 94.1  | 102.3 | 102.7 | 101.9 | 137.6 |
| 80    | 86.0 | 91.8 | 86.8 | 87.9 | 87.2 | 90.1 | 91.2  | 89.1  | 91.1  | 90.9  | 94.3  | 95.7  | 96.9  | 133.2 |
| 100   | 85.0 | 91.7 | 86.8 | 89.8 | 90.1 | 91.5 | 92.1  | 92.8  | 93.8  | 95.3  | 96.7  | 100.1 | 101.3 | 136.1 |
| 125   | 81.9 | 85.9 | 87.7 | 89.2 | 89.6 | 91.2 | 91.6  | 90.7  | 92.7  | 95.5  | 102.6 | 103.1 | 104.2 | 138.2 |
| 160   | 82.2 | 83.7 | 85.7 | 86.0 | 85.6 | 88.0 | 89.9  | 89.0  | 93.2  | 96.3  | 103.2 | 104.4 | 107.3 | 139.3 |
| 200   | 84.8 | 85.8 | 85.3 | 87.1 | 88.0 | 90.6 | 91.5  | 92.1  | 97.8  | 99.4  | 105.3 | 107.5 | 108.4 | 141.5 |
| 250   | 84.3 | 88.3 | 88.1 | 88.6 | 88.7 | 90.1 | 93.2  | 94.9  | 98.1  | 103.4 | 109.5 | 111.5 | 110.9 | 145.0 |
| 315   | 84.6 | 88.4 | 87.4 | 89.2 | 90.3 | 92.9 | 94.3  | 94.9  | 100.6 | 105.2 | 111.6 | 111.8 | 111.9 | 146.2 |
| 400   | 86.1 | 89.1 | 89.1 | 89.7 | 90.0 | 92.1 | 95.0  | 95.2  | 102.6 | 108.9 | 114.3 | 113.8 | 112.4 | 148.4 |
| 500   | 87.1 | 90.9 | 89.4 | 90.9 | 91.8 | 94.4 | 95.8  | 97.4  | 103.6 | 110.2 | 115.3 | 114.0 | 111.9 | 149.1 |
| 630   | 88.0 | 91.3 | 90.8 | 92.6 | 92.5 | 95.1 | 97.2  | 98.9  | 104.6 | 111.9 | 116.3 | 115.5 | 113.1 | 150.3 |
| 800   | 91.6 | 92.1 | 92.9 | 93.4 | 93.5 | 96.4 | 97.8  | 99.9  | 106.6 | 111.2 | 116.6 | 116.0 | 113.9 | 150.7 |
| 1000  | 96.3 | 98.5 | 96.1 | 95.8 | 95.4 | 97.8 | 98.9  | 100.3 | 106.8 | 110.9 | 115.5 | 116.4 | 114.6 | 150.6 |
| 1250  | 94.4 | 98.2 | 97.2 | 98.4 | 97.6 | 99.5 | 100.6 | 101.5 | 108.0 | 109.5 | 115.2 | 116.1 | 114.6 | 150.4 |
| 1600  | 94.3 | 95.5 | 95.9 | 96.5 | 96.5 | 98.9 | 101.5 | 102.5 | 108.9 | 109.7 | 115.3 | 116.5 | 114.3 | 150.6 |
| 2000  | 96.3 | 98.3 | 96.5 | 96.6 | 96.5 | 99.1 | 100.8 | 102.4 | 108.5 | 110.3 | 115.0 | 114.9 | 112.4 | 149.9 |
| 2500  | 93.2 | 97.0 | 97.5 | 97.5 | 96.6 | 99.0 | 101.2 | 103.6 | 107.9 | 110.2 | 115.2 | 113.5 | 109.3 | 149.5 |
| 3150  | 93.8 | 96.6 | 96.1 | 95.9 | 96.5 | 99.3 | 100.9 | 103.4 | 108.2 | 109.3 | 114.5 | 111.7 | 107.2 | 148.7 |
| 4000  | 91.2 | 95.3 | 95.4 | 95.1 | 95.8 | 98.5 | 100.6 | 103.4 | 108.1 | 108.0 | 113.8 | 110.3 | 106.1 | 148.0 |
| 5000  | 90.5 | 95.9 | 95.6 | 95.7 | 95.7 | 98.4 | 100.3 | 102.2 | 107.4 | 108.3 | 111.8 | 108.6 | 103.9 | 147.0 |
| 6300  | 88.9 | 95.2 | 96.1 | 96.4 | 95.2 | 98.2 | 100.2 | 101.9 | 106.4 | 106.6 | 110.8 | 107.8 | 103.3 | 146.3 |
| 8000  | 87.8 | 95.1 | 95.4 | 96.1 | 96.0 | 97.8 | 99.2  | 100.9 | 105.4 | 105.0 | 108.9 | 105.4 | 101.2 | 145.2 |
| 10000 | 86.4 | 93.0 | 95.0 | 96.3 | 97.4 | 98.4 | 99.7  | 100.6 | 103.8 | 103.8 | 107.6 | 105.0 | 101.0 | 145.0 |
| 12500 | 84.5 | 91.2 | 94.0 | 93.9 | 95.5 | 97.9 | 98.8  | 98.5  | 102.9 | 101.9 | 106.2 | 103.4 | 99.4  | 144.3 |
| 16000 | 82.0 | 89.9 | 92.3 | 93.4 | 93.4 | 95.4 | 97.5  | 96.9  | 101.0 | 99.2  | 103.7 | 101.4 | 97.9  | 143.6 |
| 20000 | 79.2 | 85.9 | 91.1 | 90.3 | 90.8 | 93.3 | 94.4  | 94.8  | 98.0  | 96.4  | 101.1 | 98.2  | 93.8  | 142.6 |
| 25000 | 75.7 | 83.7 | 91.0 | 87.3 | 88.7 | 91.3 | 92.4  | 91.7  | 94.5  | 93.0  | 97.0  | 95.5  | 90.9  | 142.0 |
| 31500 | 73.0 | 80.3 | 88.8 | 84.0 | 85.0 | 88.4 | 88.4  | 88.0  | 92.1  | 90.8  | 93.0  | 92.0  | 87.0  | 141.9 |
| 40000 | 67.7 | 75.8 | 87.8 | 79.3 | 80.7 | 84.3 | 84.4  | 83.7  | 88.3  | 86.8  | 90.3  | 89.4  | 82.6  | 142.6 |
| 50000 | 61.9 | 69.4 | 85.8 | 74.4 | 75.3 | 79.1 | 78.3  | 77.9  | 82.4  | 80.9  | 85.9  | 84.8  | 77.2  | 142.4 |
| 63000 | 56.7 | 64.4 | 84.4 | 68.4 | 70.1 | 73.9 | 72.2  | 72.9  | 76.8  | 76.1  | 81.2  | 81.0  | 69.9  | 144.0 |
| 80000 | 50.5 | 57.6 | 81.2 | 61.6 | 63.8 | 67.1 | 65.8  | 65.5  | 70.4  | 69.9  | 75.4  | 74.5  | 61.7  | 146.1 |

CASPL 104.6 108.1 108.0 108.3 108.4 110.7 112.3 113.8 119.0 121.5 126.6 126.0 124.0 161.8  
PNL 117.3 120.7 120.4 120.8 120.8 123.3 125.0 126.9 131.9 133.6 138.7 137.4 134.7  
PNLT 118.4 121.8 120.4 120.8 120.8 123.3 125.0 126.9 131.9 133.6 138.7 137.4 134.7  
DBA 104.6 107.8 107.3 107.7 107.5 109.9 111.8 113.6 119.0 121.1 126.1 125.5 123.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH408     | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| 1APLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 46.30       | PAMB HG = 29.33   | RELHUM = 70.4 PCT |
| WIND DIR =           | DEG WIND VEL =       | MPH EXT DIST = 40.0 FT | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1478.0 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2189.9 FPS | AE18 = 18.0 SQ IN |                   |
| RUNPT = 82F-ZER-7609 | TAPE = X7609C        | TEST PT NO = 7609      | NC = AE074           | CORR FAN SPEED =  | RPM               |

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7609 X7609F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 82.4  | 83.4  | 81.4  | 82.2  | 82.3  | 80.9  | 83.3  | 85.2  | 86.7  | 86.5  | 94.6  | 95.3  | 95.2  | 130.3 |
| 63    | 88.0  | 90.5  | 87.6  | 89.9  | 89.9  | 89.6  | 92.2  | 91.1  | 94.6  | 94.1  | 102.3 | 102.7 | 101.9 | 137.6 |
| 80    | 86.0  | 91.8  | 86.8  | 87.9  | 87.2  | 90.1  | 91.2  | 89.1  | 91.1  | 90.9  | 94.3  | 95.7  | 96.9  | 133.2 |
| 100   | 85.0  | 91.7  | 86.8  | 89.8  | 90.1  | 91.5  | 92.1  | 92.8  | 93.8  | 95.3  | 96.7  | 100.1 | 101.3 | 136.1 |
| 125   | 81.9  | 85.9  | 87.7  | 90.2  | 89.6  | 91.2  | 91.6  | 90.7  | 92.7  | 95.5  | 102.6 | 103.1 | 104.2 | 138.2 |
| 160   | 82.2  | 83.7  | 85.7  | 86.0  | 85.6  | 88.0  | 89.9  | 89.0  | 93.2  | 96.3  | 103.2 | 104.4 | 107.3 | 139.3 |
| 200   | 84.8  | 85.8  | 85.3  | 87.1  | 86.0  | 90.6  | 91.5  | 92.1  | 97.8  | 99.4  | 105.3 | 107.5 | 108.4 | 141.5 |
| 250   | 84.3  | 88.3  | 88.1  | 88.6  | 88.7  | 90.1  | 93.2  | 94.9  | 98.1  | 103.4 | 109.5 | 111.5 | 110.9 | 145.0 |
| 315   | 84.6  | 88.4  | 87.4  | 89.2  | 90.3  | 92.9  | 94.3  | 94.9  | 100.6 | 105.2 | 111.6 | 111.8 | 111.9 | 146.2 |
| 400   | 86.1  | 89.1  | 89.1  | 89.7  | 90.0  | 92.1  | 95.0  | 96.2  | 102.6 | 108.9 | 114.3 | 113.8 | 112.4 | 148.4 |
| 500   | 87.1  | 90.9  | 89.4  | 90.9  | 91.8  | 94.4  | 95.8  | 97.4  | 103.6 | 110.2 | 115.3 | 114.0 | 111.9 | 149.1 |
| 630   | 88.0  | 91.3  | 90.8  | 92.6  | 92.5  | 95.1  | 97.2  | 98.9  | 104.6 | 111.9 | 116.3 | 115.5 | 113.1 | 150.3 |
| 800   | 91.6  | 92.1  | 92.9  | 93.4  | 93.5  | 96.4  | 97.8  | 99.9  | 106.6 | 111.2 | 116.6 | 116.0 | 113.9 | 150.7 |
| 1000  | 96.3  | 98.5  | 96.1  | 95.8  | 95.4  | 97.8  | 98.9  | 100.3 | 106.8 | 110.9 | 115.5 | 116.4 | 114.6 | 150.6 |
| 1250  | 94.4  | 98.2  | 97.2  | 98.4  | 97.6  | 99.5  | 100.6 | 101.5 | 108.0 | 109.5 | 115.2 | 116.1 | 114.6 | 150.4 |
| 1600  | 94.3  | 95.5  | 95.9  | 96.5  | 96.5  | 98.9  | 101.5 | 102.5 | 108.9 | 109.7 | 115.3 | 116.5 | 114.3 | 150.6 |
| 2000  | 96.3  | 98.3  | 96.5  | 96.6  | 96.5  | 99.1  | 100.8 | 102.4 | 108.5 | 110.3 | 115.0 | 114.9 | 112.4 | 149.9 |
| 2500  | 93.2  | 97.0  | 97.5  | 97.5  | 96.6  | 99.0  | 101.2 | 103.6 | 107.9 | 110.2 | 115.2 | 113.5 | 109.3 | 149.5 |
| 3150  | 93.8  | 96.6  | 95.1  | 95.9  | 96.5  | 99.3  | 100.9 | 103.4 | 108.2 | 109.3 | 114.5 | 111.7 | 107.2 | 148.7 |
| 4000  | 91.2  | 95.3  | 95.4  | 95.1  | 95.8  | 98.5  | 100.6 | 103.4 | 108.1 | 108.0 | 113.8 | 110.3 | 106.1 | 148.0 |
| 5000  | 90.5  | 95.9  | 95.6  | 95.7  | 95.7  | 98.4  | 100.3 | 102.2 | 107.4 | 108.3 | 111.8 | 108.6 | 103.9 | 147.0 |
| 6300  | 88.9  | 95.2  | 96.1  | 96.4  | 95.2  | 98.2  | 100.2 | 101.9 | 106.4 | 106.6 | 110.8 | 107.8 | 103.3 | 146.3 |
| 8000  | 87.8  | 95.1  | 95.4  | 96.1  | 96.0  | 97.8  | 99.2  | 100.9 | 105.4 | 105.0 | 108.9 | 105.4 | 101.2 | 145.2 |
| 10000 | 86.4  | 93.0  | 95.0  | 96.3  | 97.4  | 98.4  | 99.7  | 100.6 | 103.8 | 103.8 | 107.6 | 105.0 | 101.0 | 145.0 |
| 12500 | 84.5  | 91.2  | 94.0  | 93.9  | 95.5  | 97.9  | 98.8  | 98.5  | 102.9 | 101.9 | 106.2 | 103.4 | 99.4  | 144.3 |
| 16000 | 82.0  | 89.9  | 92.3  | 93.4  | 95.4  | 95.4  | 97.5  | 96.9  | 101.0 | 99.2  | 103.7 | 101.4 | 97.9  | 143.6 |
| 20000 | 79.2  | 85.9  | 91.1  | 90.3  | 90.8  | 93.3  | 94.4  | 94.8  | 98.0  | 96.4  | 101.1 | 98.2  | 93.8  | 142.6 |
| 25000 | 75.7  | 83.7  | 91.0  | 87.3  | 88.7  | 91.3  | 92.4  | 91.7  | 94.5  | 93.0  | 97.0  | 95.5  | 90.9  | 142.0 |
| 31500 | 73.0  | 80.3  | 88.8  | 84.0  | 85.0  | 88.4  | 88.4  | 88.0  | 92.1  | 90.8  | 93.0  | 92.0  | 87.0  | 141.9 |
| 40000 | 67.7  | 75.8  | 87.8  | 79.3  | 80.7  | 84.3  | 84.4  | 83.7  | 88.3  | 86.8  | 90.3  | 89.4  | 82.6  | 142.6 |
| 50000 | 61.9  | 69.4  | 85.8  | 74.4  | 75.3  | 79.1  | 78.3  | 77.9  | 82.4  | 80.9  | 85.9  | 84.8  | 77.2  | 142.4 |
| 63000 | 56.7  | 64.4  | 84.4  | 68.4  | 70.1  | 73.9  | 72.2  | 72.9  | 76.8  | 76.1  | 81.2  | 81.0  | 69.9  | 144.0 |
| 80000 | 50.5  | 57.6  | 81.2  | 61.6  | 63.8  | 67.1  | 65.8  | 65.5  | 70.4  | 69.9  | 75.4  | 74.5  | 61.7  | 146.1 |
| GASPL | 104.6 | 108.1 | 108.0 | 108.3 | 108.4 | 110.7 | 112.3 | 113.8 | 119.0 | 121.5 | 126.6 | 126.0 | 124.0 | 161.8 |
| PNL   | 117.3 | 120.7 | 120.4 | 120.8 | 120.8 | 123.3 | 125.0 | 126.9 | 131.9 | 133.6 | 138.7 | 137.4 | 134.7 |       |
| PNLT  | 118.4 | 121.8 | 120.4 | 120.8 | 120.8 | 123.3 | 125.0 | 126.9 | 131.9 | 133.6 | 138.7 | 137.4 | 134.7 |       |
| DBA   | 172.6 | 180.0 | 202.1 | 184.0 | 185.9 | 189.4 | 188.1 | 188.1 | 192.6 | 192.0 | 197.3 | 196.5 | 185.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-6/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |            |         |   |            |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|------------|---------|---|------------|--------|---|----------|
| VEHICL   | = | ADH408 | TEST DATE | = | 11-29-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 6          | MODEL   | = | 6          | FLTVEL | = | 0. FPS   |
| IAPLIA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 46.30      | PAMB HG | = | 29.33      | RELHUM | = | 70.4 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 40.0 FT      | EXT CONFIG | = | ARC        | MIKE HT | = |            | NBFR   | = |          |
| FNIN1    | = | LBS    | XNL       | = | RPM      | XNH      | = | RPM          | V8         | = | 1478.0 FPS | AE8     | = | 3.4 SQ IN  |        |   |          |
| FNRMS    | = | LBS    | XNLR      | = | RPM      | XNHR     | = | RPM          | V18        | = | 2189.9 FPS | AE18    | = | 18.0 SQ IN |        |   |          |

RUNPT = 82F-ZER-7609 TAPE = X7609F TEST PT NO = 7609 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-7609 X76091

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 64.8 | 69.3 | 70.4 | 71.7 | 72.4 | 74.7 | 77.4 | 78.2 | 83.9 | 89.2 | 93.0 | 90.2 | 85.6 | 166.5 |
| 63    | 65.8 | 71.1 | 70.7 | 72.9 | 74.2 | 76.9 | 78.2 | 79.4 | 84.9 | 90.4 | 94.0 | 90.5 | 85.0 | 167.2 |
| 80    | 66.7 | 71.5 | 72.1 | 74.6 | 74.8 | 77.6 | 79.6 | 80.8 | 85.8 | 92.1 | 94.9 | 91.9 | 86.1 | 168.5 |
| 100   | 70.1 | 72.2 | 74.1 | 75.3 | 75.8 | 78.9 | 80.1 | 81.8 | 87.8 | 91.3 | 95.1 | 92.3 | 86.8 | 168.8 |
| 125   | 74.7 | 78.5 | 77.2 | 77.7 | 77.7 | 80.2 | 81.2 | 82.2 | 87.9 | 90.9 | 93.9 | 92.6 | 87.2 | 168.7 |
| 160   | 72.6 | 78.0 | 78.2 | 80.1 | 79.7 | 81.7 | 82.7 | 83.2 | 88.9 | 89.4 | 93.4 | 92.0 | 86.9 | 168.5 |
| 200   | 72.3 | 75.1 | 76.7 | 78.1 | 78.5 | 81.0 | 83.4 | 84.1 | 89.7 | 89.4 | 93.3 | 92.1 | 86.0 | 168.8 |
| 250   | 73.9 | 77.7 | 77.0 | 77.9 | 78.2 | 81.0 | 82.6 | 83.7 | 89.0 | 89.6 | 92.7 | 90.0 | 83.5 | 168.1 |
| 315   | 70.4 | 76.0 | 77.8 | 78.6 | 78.2 | 80.7 | 82.7 | 84.6 | 88.2 | 89.2 | 92.5 | 88.1 | 79.6 | 167.6 |
| 400   | 70.5 | 75.2 | 76.0 | 76.6 | 77.7 | 80.6 | 82.1 | 84.1 | 88.1 | 87.9 | 91.3 | 85.6 | 76.5 | 166.9 |
| 500   | 67.5 | 73.5 | 75.0 | 75.5 | 76.7 | 79.6 | 81.6 | 83.9 | 87.6 | 86.3 | 90.0 | 83.6 | 74.4 | 166.1 |
| 630   | 66.3 | 73.8 | 74.8 | 75.9 | 76.4 | 79.3 | 81.0 | 82.3 | 86.6 | 86.1 | 87.6 | 81.2 | 71.1 | 165.1 |
| 800   | 64.2 | 72.7 | 75.0 | 76.3 | 75.6 | 78.7 | 80.6 | 81.8 | 85.3 | 84.0 | 86.1 | 79.7 | 69.5 | 164.4 |
| 1000  | 62.6 | 72.2 | 74.1 | 75.8 | 76.3 | 78.3 | 79.5 | 80.6 | 84.1 | 82.1 | 83.8 | 76.6 | 66.2 | 163.3 |
| 1250  | 60.8 | 69.8 | 73.5 | 75.8 | 77.6 | 78.7 | 79.8 | 80.2 | 82.3 | 80.6 | 82.0 | 75.5 | 64.6 | 163.1 |
| 1600  | 57.9 | 67.4 | 72.1 | 73.1 | 75.3 | 78.0 | 78.6 | 77.7 | 80.9 | 78.1 | 79.7 | 72.5 | 60.6 | 162.5 |
| 2000  | 54.5 | 65.5 | 70.0 | 72.3 | 73.1 | 75.3 | 77.1 | 75.8 | 78.7 | 74.8 | 76.2 | 68.9 | 56.1 | 161.8 |
| 2500  | 49.9 | 60.4 | 67.9 | 68.6 | 69.9 | 72.7 | 73.5 | 73.1 | 74.8 | 70.9 | 71.8 | 62.9 | 47.1 | 160.8 |
| 3150  | 43.1 | 55.7 | 65.9 | 64.1 | 66.4 | 69.3 | 70.2 | 68.5 | 69.4 | 65.0 | 64.4 | 55.1 | 35.8 | 160.1 |
| 4000  | 34.1 | 47.5 | 59.9 | 57.5 | 59.8 | 63.6 | 63.2 | 61.4 | 63.2 | 58.1 | 54.1 | 42.7 | 17.4 | 160.1 |
| 5000  | 19.0 | 35.5 | 52.6 | 47.3 | 50.4 | 54.6 | 54.1 | 51.7 | 53.2 | 46.5 | 41.7 | 26.4 |      | 160.7 |
| 6300  |      | 14.9 | 38.6 | 31.7 | 35.0 | 39.6 | 38.0 | 35.1 | 35.2 | 26.4 | 19.4 |      |      | 160.5 |
| 8000  |      |      | 15.8 | 6.4  | 11.7 | 15.6 | 13.8 | 10.9 | 8.3  |      |      |      |      | 162.2 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 164.3 |
| 12500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

|       |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 81.8 | 86.6 | 87.5 | 88.7 | 89.2 | 91.7 | 93.3  | 94.4  | 99.0  | 100.7 | 104.0 | 101.1 | 95.3 | 179.6 |
| PNL   | 85.2 | 91.2 | 94.0 | 95.3 | 96.2 | 98.9 | 100.2 | 100.4 | 104.3 | 104.1 | 106.9 | 103.0 | 95.7 |       |
| PNLT  | 85.8 | 91.8 | 94.0 | 95.8 | 96.2 | 98.9 | 100.2 | 100.4 | 104.3 | 104.1 | 108.0 | 103.0 | 95.7 |       |
| DBA   | 73.9 | 80.7 | 83.1 | 84.4 | 85.2 | 87.6 | 89.1  | 89.9  | 93.5  | 92.6  | 95.2  | 90.4  | 82.6 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH408 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.33 RELHUM = 70.4 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1478.0 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2189.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-7609 TAPE = X76091 TEST PT NO = 7609 NC = AE0.4 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7610 X7610C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 50    | 85.1 | 83.2 | 78.7 | 80.5 | 79.6 | 79.7 | 80.3 | 81.2 | 83.2  | 83.7  | 88.9  | 89.8  | 96.2  | 127.6 |
| 63    | 85.8 | 88.3 | 84.3 | 86.4 | 86.4 | 86.1 | 89.2 | 86.1 | 89.6  | 89.9  | 93.8  | 91.2  | 95.9  | 131.3 |
| 80    | 86.0 | 90.3 | 85.6 | 86.9 | 86.0 | 88.6 | 90.2 | 88.4 | 90.8  | 91.2  | 92.0  | 94.5  | 97.6  | 132.4 |
| 100   | 84.0 | 89.0 | 85.0 | 87.0 | 87.4 | 88.3 | 88.9 | 90.0 | 91.5  | 92.3  | 94.5  | 98.1  | 101.6 | 134.2 |
| 125   | 82.1 | 84.9 | 85.2 | 87.5 | 87.6 | 88.9 | 89.3 | 88.2 | 90.2  | 93.3  | 98.9  | 100.6 | 103.0 | 135.7 |
| 160   | 81.2 | 80.5 | 82.7 | 83.5 | 82.9 | 84.7 | 86.4 | 84.5 | 88.7  | 92.6  | 99.2  | 101.6 | 104.8 | 136.2 |
| 200   | 82.5 | 82.6 | 80.3 | 82.4 | 83.5 | 85.6 | 87.7 | 88.1 | 92.6  | 94.9  | 100.0 | 103.7 | 105.4 | 137.5 |
| 250   | 79.8 | 82.3 | 81.6 | 83.9 | 83.7 | 86.1 | 87.5 | 89.1 | 93.1  | 99.4  | 104.3 | 106.7 | 106.4 | 140.2 |
| 315   | 82.6 | 84.4 | 82.4 | 84.4 | 85.8 | 87.4 | 89.8 | 90.4 | 95.9  | 101.5 | 106.6 | 107.8 | 106.4 | 141.6 |
| 400   | 81.6 | 83.6 | 83.6 | 84.9 | 85.3 | 87.6 | 89.8 | 90.9 | 97.4  | 105.4 | 109.3 | 109.5 | 104.2 | 143.5 |
| 500   | 82.6 | 85.1 | 84.7 | 85.9 | 87.0 | 89.6 | 90.5 | 92.9 | 98.4  | 107.0 | 110.9 | 109.0 | 100.4 | 144.3 |
| 630   | 82.8 | 85.6 | 85.4 | 87.1 | 87.5 | 90.3 | 92.2 | 94.4 | 99.9  | 109.2 | 112.1 | 108.0 | 96.9  | 145.3 |
| 800   | 85.3 | 84.9 | 86.4 | 87.7 | 88.3 | 91.4 | 93.3 | 94.9 | 101.9 | 109.2 | 111.4 | 105.3 | 94.2  | 144.8 |
| 1000  | 87.3 | 86.8 | 87.6 | 88.9 | 89.7 | 92.8 | 93.9 | 95.6 | 102.6 | 107.9 | 109.5 | 102.4 | 92.9  | 143.5 |
| 1250  | 86.2 | 89.7 | 88.5 | 90.1 | 90.1 | 93.0 | 94.4 | 97.0 | 103.5 | 107.3 | 107.7 | 98.9  | 91.1  | 142.6 |
| 1600  | 86.6 | 87.7 | 88.4 | 89.8 | 91.0 | 94.1 | 96.0 | 98.3 | 104.9 | 107.0 | 107.1 | 97.8  | 89.5  | 142.7 |
| 2000  | 86.8 | 88.1 | 88.5 | 89.9 | 90.4 | 93.8 | 96.0 | 98.9 | 104.2 | 107.0 | 106.0 | 95.8  | 90.9  | 142.3 |
| 2500  | 86.6 | 88.2 | 88.5 | 89.7 | 90.6 | 94.0 | 95.9 | 99.3 | 103.4 | 107.2 | 106.5 | 95.5  | 89.8  | 142.1 |
| 3150  | 86.7 | 88.3 | 88.8 | 90.1 | 91.4 | 94.5 | 96.4 | 98.8 | 103.9 | 106.0 | 104.3 | 95.2  | 89.9  | 141.6 |
| 4000  | 86.9 | 88.2 | 88.6 | 90.3 | 91.2 | 94.4 | 96.1 | 99.1 | 103.5 | 104.7 | 103.7 | 96.0  | 90.3  | 141.1 |
| 5000  | 89.7 | 90.1 | 89.2 | 89.6 | 90.1 | 94.1 | 95.7 | 98.3 | 103.3 | 104.9 | 103.5 | 96.0  | 89.8  | 141.2 |
| 6300  | 92.3 | 92.8 | 91.9 | 91.9 | 90.8 | 94.2 | 96.0 | 97.9 | 101.7 | 103.3 | 103.1 | 95.9  | 90.4  | 140.7 |
| 8000  | 91.5 | 94.0 | 93.1 | 92.6 | 91.7 | 93.0 | 95.2 | 97.1 | 101.3 | 102.1 | 101.9 | 95.6  | 90.0  | 140.2 |
| 10000 | 89.8 | 92.0 | 93.3 | 95.2 | 94.3 | 94.1 | 95.1 | 96.5 | 100.2 | 100.8 | 100.5 | 95.7  | 89.4  | 140.3 |
| 12500 | 87.0 | 89.9 | 90.5 | 92.7 | 93.2 | 94.7 | 94.8 | 94.7 | 99.1  | 99.0  | 98.7  | 94.5  | 88.3  | 139.7 |
| 16000 | 85.8 | 88.9 | 88.1 | 91.4 | 90.7 | 92.4 | 93.7 | 93.4 | 97.2  | 96.3  | 96.5  | 92.7  | 87.2  | 139.1 |
| 20000 | 82.9 | 85.3 | 85.7 | 88.7 | 88.0 | 90.5 | 91.3 | 91.7 | 95.1  | 93.8  | 94.0  | 89.9  | 84.8  | 138.6 |
| 25000 | 79.9 | 83.4 | 83.4 | 86.2 | 86.8 | 88.6 | 89.8 | 88.9 | 92.2  | 90.2  | 89.7  | 88.4  | 83.8  | 138.3 |
| 31500 | 76.2 | 79.9 | 79.0 | 83.1 | 83.6 | 85.4 | 86.4 | 86.3 | 90.2  | 87.9  | 86.4  | 85.0  | 80.2  | 138.6 |
| 40000 | 72.5 | 76.0 | 78.5 | 79.5 | 79.8 | 82.9 | 82.5 | 82.6 | 86.0  | 84.4  | 82.9  | 81.9  | 75.3  | 139.0 |
| 50000 | 66.3 | 70.1 | 77.4 | 74.5 | 74.4 | 78.4 | 77.4 | 77.2 | 81.1  | 78.2  | 77.6  | 77.4  | 70.3  | 138.5 |
| 63000 | 61.2 | 65.9 | 78.4 | 69.4 | 70.1 | 74.0 | 72.5 | 73.1 | 75.9  | 73.2  | 73.2  | 72.6  | 64.1  | 140.1 |
| 80000 | 54.7 | 59.4 | 78.4 | 61.8 | 63.6 | 69.1 | 66.1 | 65.4 | 68.9  | 67.5  | 66.7  | 66.4  | 56.1  | 143.3 |

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OASPL 101.1 102.8 102.4 103.8 103.9 106.3 107.8 109.7 114.7 118.6 120.1 117.0 114.1 156.1

PNL 113.7 114.8 114.3 115.2 115.8 118.6 120.4 122.7 127.5 130.6 130.6 125.5 121.2

PNLT 113.7 114.8 114.3 115.2 115.8 118.6 120.4 122.7 127.5 130.6 130.6 125.5 121.2

DBA 99.6 101.0 100.9 101.9 102.2 105.1 106.9 109.4 114.6 118.1 118.9 113.5 107.3

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH417 TEST DATE = 11-30-52 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 63.50 PAMB HG = 29.42 RELHUM = 64.0 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1487.0 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2178.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7610 TAPE = X7610C TEST PT NO = 7610 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-7610 X7610F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 87.0  | 88.3  | 86.2  | 87.0  | 85.2  | 86.1  | 85.6  | 85.5  | 92.4  | 97.1  | 101.7 | 103.3 | 103.8 | 137.6 |
| 315   | 87.0  | 88.3  | 86.2  | 87.0  | 87.4  | 87.6  | 88.4  | 87.6  | 95.5  | 103.0 | 106.7 | 107.9 | 105.2 | 141.7 |
| 400   | 88.9  | 89.8  | 86.7  | 87.4  | 87.0  | 87.9  | 89.0  | 89.2  | 96.2  | 104.3 | 108.3 | 108.1 | 103.2 | 142.4 |
| 500   | 88.8  | 89.7  | 88.4  | 88.2  | 88.9  | 90.0  | 89.5  | 90.7  | 97.6  | 106.4 | 109.4 | 107.5 | 101.3 | 143.2 |
| 630   | 90.3  | 91.5  | 89.6  | 89.4  | 89.4  | 90.8  | 91.2  | 92.0  | 99.9  | 106.8 | 109.3 | 105.9 | 101.1 | 143.2 |
| 800   | 90.5  | 92.0  | 90.4  | 90.6  | 90.3  | 91.9  | 92.3  | 92.6  | 101.2 | 106.2 | 108.4 | 104.7 | 102.7 | 142.7 |
| 1000  | 93.0  | 91.3  | 91.5  | 91.3  | 91.9  | 93.5  | 93.1  | 93.5  | 102.1 | 105.5 | 106.3 | 100.7 | 100.2 | 141.6 |
| 1250  | 94.9  | 93.3  | 92.7  | 92.5  | 92.4  | 93.8  | 93.6  | 94.9  | 104.7 | 105.3 | 105.8 | 99.6  | 98.3  | 141.7 |
| 1600  | 93.7  | 96.1  | 93.6  | 93.8  | 93.5  | 95.2  | 95.5  | 96.4  | 103.3 | 105.7 | 105.1 | 98.0  | 100.0 | 141.9 |
| 2000  | 94.2  | 94.3  | 93.6  | 93.6  | 93.1  | 95.1  | 95.8  | 97.3  | 102.9 | 106.3 | 105.0 | 98.1  | 99.4  | 141.9 |
| 2500  | 94.4  | 94.6  | 93.8  | 93.9  | 93.6  | 95.6  | 96.0  | 98.1  | 103.9 | 105.6 | 104.3 | 98.4  | 100.2 | 142.0 |
| 3150  | 94.3  | 94.8  | 94.0  | 93.9  | 94.7  | 96.5  | 96.9  | 98.1  | 104.3 | 105.1 | 104.5 | 100.0 | 101.7 | 142.3 |
| 4000  | 94.3  | 94.9  | 94.4  | 94.5  | 94.9  | 97.0  | 97.2  | 99.0  | 104.1 | 105.2 | 104.2 | 99.9  | 100.9 | 142.4 |
| 5000  | 94.4  | 94.9  | 94.3  | 94.9  | 94.2  | 97.1  | 97.2  | 98.3  | 102.8 | 104.2 | 104.6 | 100.7 | 102.7 | 142.2 |
| 6300  | 97.1  | 96.8  | 95.0  | 94.4  | 94.5  | 97.2  | 97.5  | 98.1  | 102.7 | 103.3 | 103.6 | 100.8 | 102.7 | 142.2 |
| 8000  | 97.7  | 98.0  | 96.6  | 96.0  | 95.4  | 96.0  | 96.8  | 97.3  | 102.2 | 102.6 | 103.0 | 101.6 | 102.7 | 142.5 |
| 10000 | 96.3  | 98.6  | 97.3  | 96.3  | 98.3  | 97.1  | 97.0  | 97.2  | 101.8 | 101.6 | 101.9 | 101.1 | 102.1 | 142.8 |
| 12500 | 96.7  | 98.2  | 98.6  | 99.4  | 97.3  | 97.7  | 97.0  | 95.8  | 101.1 | 100.1 | 100.8 | 100.2 | 101.9 | 143.4 |
| 16000 | 93.4  | 95.5  | 95.2  | 96.4  | 94.7  | 95.4  | 96.1  | 94.9  | 99.5  | 98.0  | 98.8  | 98.0  | 99.9  | 142.6 |
| 20000 | 91.7  | 94.1  | 92.4  | 94.7  | 92.0  | 93.5  | 93.7  | 93.3  | 95.1  | 92.7  | 92.4  | 94.1  | 96.6  | 141.2 |
| 25000 | 88.2  | 89.9  | 89.4  | 91.4  | 90.9  | 91.6  | 91.2  | 88.9  | 96.2  | 93.4  | 91.9  | 93.3  | 95.3  | 142.0 |
| 31500 | 84.4  | 87.2  | 86.3  | 88.2  | 88.2  | 88.4  | 88.9  | 88.2  | 92.8  | 90.9  | 89.9  | 91.9  | 92.2  | 142.5 |
| 40000 | 82.7  | 85.2  | 82.8  | 85.3  | 84.4  | 85.9  | 84.9  | 84.4  | 88.3  | 85.0  | 84.7  | 87.3  | 87.1  | 142.5 |
| 50000 | 78.6  | 80.8  | 81.8  | 81.4  | 79.0  | 81.4  | 79.9  | 79.0  | 84.0  | 81.2  | 81.7  | 84.2  | 82.8  | 142.8 |
| 63000 | 71.5  | 74.0  | 79.9  | 75.4  | 74.1  | 77.0  | 74.9  | 74.9  | 78.3  | 76.8  | 76.7  | 79.7  | 76.6  | 143.4 |
| 80000 | 62.1  | 66.0  | 77.7  | 67.6  | 67.7  | 72.1  | 68.5  | 67.0  | 68.5  | 67.0  | 66.9  | 69.9  | 66.8  | 144.0 |
| 8ASPL | 107.0 | 107.9 | 106.9 | 107.2 | 106.8 | 108.0 | 108.2 | 108.9 | 114.7 | 117.3 | 118.5 | 116.1 | 114.8 | 156.5 |
| PNL   | 118.4 | 118.7 | 117.7 | 117.7 | 117.9 | 119.7 | 119.9 | 121.2 | 127.0 | 129.0 | 129.2 | 125.4 | 125.8 |       |
| PNLT  | 118.4 | 118.7 | 117.7 | 117.7 | 117.9 | 119.7 | 119.9 | 121.2 | 127.0 | 129.0 | 129.2 | 125.4 | 125.8 |       |
| DBA   | 186.0 | 189.1 | 198.4 | 190.4 | 189.9 | 193.6 | 190.6 | 189.7 | 192.4 | 190.7 | 190.6 | 193.5 | 190.8 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH417 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 63.50 PAMB HG = 29.42 RELHUM = 64.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1487.0 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2178.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7610 TAPE = X7610F TEST PT NO = 7610 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-7610 X76101

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|-------|
| FREQ  |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 50    | 67.6 | 70.1 | 68.0 | 69.5 | 69.5 | 70.4 | 71.4 | 71.2 | 77.5  | 84.5  | 87.0 | 84.6 | 76.4 | 160.6 |
| 63    | 67.5 | 69.9 | 69.7 | 70.2 | 71.3 | 72.5 | 71.9 | 72.7 | 78.8  | 86.6  | 88.1 | 83.9 | 74.4 | 161.3 |
| 80    | 68.9 | 71.7 | 70.9 | 71.4 | 71.8 | 73.3 | 73.5 | 74.0 | 81.2  | 87.0  | 87.9 | 82.3 | 74.1 | 161.3 |
| 100   | 69.0 | 72.1 | 71.6 | 72.6 | 72.7 | 74.4 | 74.6 | 74.5 | 82.3  | 86.3  | 86.9 | 81.0 | 75.5 | 160.9 |
| 125   | 71.4 | 71.3 | 72.6 | 73.1 | 74.1 | 75.8 | 75.4 | 75.3 | 83.2  | 85.5  | 84.7 | 76.8 | 72.9 | 159.7 |
| 160   | 73.2 | 73.1 | 73.6 | 74.2 | 74.5 | 76.0 | 75.8 | 76.6 | 84.6  | 85.2  | 84.1 | 75.5 | 70.6 | 159.9 |
| 200   | 71.7 | 75.8 | 74.4 | 75.4 | 75.5 | 77.3 | 77.5 | 78.0 | 84.1  | 85.3  | 83.1 | 73.6 | 71.8 | 160.0 |
| 250   | 71.9 | 73.6 | 74.2 | 75.0 | 74.9 | 77.0 | 77.6 | 78.6 | 83.4  | 85.6  | 82.6 | 73.3 | 70.6 | 160.1 |
| 315   | 71.6 | 73.7 | 74.1 | 74.9 | 75.1 | 77.3 | 77.6 | 79.1 | 84.2  | 84.6  | 81.6 | 72.9 | 70.5 | 160.1 |
| 400   | 71.0 | 73.4 | 73.8 | 74.7 | 75.9 | 77.9 | 78.2 | 78.8 | 84.2  | 83.7  | 81.2 | 74.0 | 71.0 | 160.4 |
| 500   | 70.6 | 73.2 | 74.0 | 74.9 | 75.8 | 78.1 | 78.2 | 79.5 | 83.6  | 83.5  | 80.5 | 73.2 | 69.3 | 160.5 |
| 630   | 70.2 | 72.8 | 73.6 | 75.1 | 74.8 | 77.9 | 77.8 | 78.5 | 82.1  | 82.0  | 80.3 | 73.3 | 70.0 | 160.3 |
| 800   | 72.4 | 74.2 | 73.9 | 74.3 | 74.9 | 77.8 | 78.0 | 78.0 | 81.6  | 80.7  | 78.9 | 72.7 | 68.8 | 160.4 |
| 1000  | 72.5 | 75.1 | 75.3 | 75.7 | 75.6 | 76.5 | 77.1 | 77.0 | 80.9  | 79.8  | 77.8 | 72.8 | 67.7 | 160.6 |
| 1250  | 70.7 | 75.5 | 75.5 | 75.8 | 78.5 | 77.4 | 77.2 | 76.7 | 80.3  | 78.4  | 76.2 | 71.5 | 65.7 | 161.0 |
| 1600  | 70.1 | 74.4 | 76.6 | 78.6 | 77.1 | 77.8 | 76.9 | 75.0 | 79.2  | 76.3  | 74.2 | 69.3 | 63.0 | 161.5 |
| 2000  | 65.9 | 71.1 | 72.9 | 75.4 | 74.4 | 75.3 | 75.8 | 73.9 | 77.2  | 73.6  | 71.3 | 65.4 | 58.1 | 160.7 |
| 2500  | 62.4 | 68.5 | 69.2 | 73.0 | 71.2 | 72.9 | 72.9 | 71.6 | 71.9  | 67.1  | 63.1 | 58.8 | 49.8 | 159.3 |
| 3150  | 55.5 | 61.9 | 64.3 | 68.2 | 68.6 | 69.7 | 69.0 | 65.6 | 71.1  | 65.3  | 59.3 | 52.9 | 40.1 | 160.2 |
| 4000  | 45.5 | 54.4 | 57.4 | 61.6 | 62.9 | 63.6 | 63.6 | 61.6 | 63.9  | 58.1  | 51.0 | 42.6 | 22.6 | 160.6 |
| 5000  | 34.1 | 44.9 | 47.6 | 53.3 | 54.1 | 56.2 | 54.7 | 52.4 | 53.2  | 44.7  | 36.1 | 24.3 |      | 160.6 |
| 6300  | 12.1 | 26.3 | 34.6 | 38.6 | 38.7 | 41.9 | 39.5 | 36.3 | 36.8  | 26.7  | 15.3 |      |      | 161.0 |
| 8000  |      |      | 11.3 | 13.4 | 15.7 | 19.7 | 16.5 | 12.9 | 9.8   |       |      |      |      | 161.5 |
| 10000 |      |      |      |      |      |      |      |      |       |       |      |      |      | 162.2 |
| 12500 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |       |       |      |      |      |       |
| OASPL | 83.1 | 85.7 | 86.1 | 87.2 | 87.5 | 89.0 | 89.0 | 89.3 | 94.6  | 96.3  | 95.9 | 90.4 | 84.0 | 174.5 |
| PNL   | 89.8 | 93.7 | 95.0 | 96.8 | 96.4 | 97.6 | 97.5 | 96.7 | 100.9 | 100.4 | 98.3 | 91.8 | 86.4 |       |
| PNLT  | 91.0 | 94.7 | 95.5 | 97.8 | 96.4 | 97.6 | 97.5 | 96.7 | 101.5 | 100.4 | 98.3 | 91.8 | 86.4 |       |
| DBA   | 79.6 | 83.0 | 83.9 | 85.3 | 85.3 | 86.4 | 86.4 | 86.1 | 90.1  | 89.2  | 87.0 | 80.6 | 76.2 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/CCAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH417 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLIA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 63.50 PAMB HG = 29.42 RELHUM = 64.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1487.0 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2178.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7610 TAPE = X76101 TEST PT NO = 7610 NC = AE075 CORR FAN SPEED = RPM

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PI185-03  
PI1811

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7611 X7611C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.1 | 82.2  | 81.7  | 81.5  | 82.3  | 84.9  | 86.8  | 87.0  | 87.2  | 87.2  | 95.1  | 95.8  | 95.0  | 130.9 |
| 63    | 90.3 | 86.0  | 87.1  | 87.5  | 90.2  | 93.1  | 94.0  | 93.1  | 94.3  | 95.4  | 102.8 | 102.7 | 101.9 | 138.1 |
| 80    | 87.3 | 92.6  | 88.3  | 89.4  | 88.5  | 91.3  | 92.0  | 90.6  | 93.1  | 92.2  | 95.8  | 97.0  | 98.4  | 134.5 |
| 100   | 86.5 | 92.7  | 88.3  | 90.8  | 91.1  | 92.5  | 93.1  | 93.8  | 95.0  | 95.8  | 97.7  | 101.1 | 102.3 | 137.1 |
| 125   | 82.9 | 86.9  | 88.9  | 91.2  | 90.8  | 92.2  | 92.3  | 91.7  | 94.4  | 96.5  | 103.6 | 104.6 | 105.5 | 139.4 |
| 160   | 82.7 | 83.7  | 86.7  | 87.0  | 86.9  | 89.2  | 90.9  | 89.8  | 94.7  | 97.6  | 103.9 | 105.6 | 108.3 | 140.3 |
| 200   | 85.8 | 86.1  | 86.3  | 88.4  | 89.5  | 91.8  | 92.7  | 93.1  | 98.6  | 100.9 | 106.3 | 108.5 | 110.1 | 142.8 |
| 250   | 85.3 | 89.3  | 89.3  | 89.9  | 89.2  | 91.3  | 94.5  | 95.9  | 99.3  | 105.9 | 111.0 | 112.2 | 112.4 | 146.3 |
| 315   | 85.8 | 89.4  | 87.9  | 89.7  | 91.5  | 94.1  | 95.3  | 96.2  | 101.6 | 108.0 | 113.1 | 113.5 | 113.4 | 147.9 |
| 400   | 87.6 | 89.8  | 90.1  | 90.9  | 91.2  | 93.6  | 96.0  | 97.2  | 103.4 | 111.7 | 115.6 | 114.8 | 113.4 | 149.8 |
| 500   | 87.6 | 91.4  | 90.6  | 92.4  | 92.8  | 95.6  | 96.3  | 98.2  | 105.1 | 113.0 | 117.3 | 115.5 | 113.7 | 151.0 |
| 630   | 89.0 | 92.8  | 92.1  | 93.6  | 93.2  | 96.8  | 98.5  | 100.1 | 106.3 | 114.9 | 118.5 | 116.2 | 114.6 | 152.3 |
| 800   | 93.1 | 93.9  | 94.4  | 94.9  | 95.0  | 97.1  | 99.3  | 101.4 | 108.1 | 114.2 | 119.3 | 117.0 | 115.4 | 152.8 |
| 1000  | 97.0 | 100.3 | 97.6  | 97.8  | 96.4  | 98.6  | 99.9  | 101.8 | 108.3 | 113.4 | 119.8 | 116.9 | 116.1 | 153.1 |
| 1250  | 96.4 | 100.7 | 100.0 | 100.9 | 100.1 | 101.0 | 101.6 | 103.3 | 109.0 | 111.5 | 119.2 | 116.6 | 115.6 | 152.6 |
| 1600  | 95.1 | 99.7  | 97.1  | 98.3  | 98.8  | 100.9 | 102.2 | 104.0 | 110.6 | 111.7 | 119.8 | 116.8 | 114.8 | 153.0 |
| 2000  | 96.5 | 100.1 | 97.7  | 98.1  | 97.5  | 99.6  | 101.8 | 104.4 | 109.7 | 112.5 | 119.0 | 114.4 | 111.9 | 152.0 |
| 2500  | 93.9 | 98.5  | 98.5  | 98.5  | 98.1  | 100.0 | 102.2 | 104.8 | 109.4 | 112.2 | 119.2 | 112.3 | 109.5 | 151.8 |
| 3150  | 93.8 | 99.1  | 97.9  | 97.6  | 98.0  | 100.0 | 101.9 | 104.1 | 109.2 | 111.3 | 117.3 | 110.0 | 108.0 | 150.4 |
| 4000  | 92.7 | 97.6  | 97.7  | 97.6  | 97.0  | 100.0 | 101.4 | 104.4 | 109.1 | 110.0 | 116.3 | 108.6 | 106.1 | 149.6 |
| 5000  | 91.0 | 95.9  | 96.6  | 97.0  | 96.7  | 98.9  | 101.6 | 103.4 | 108.7 | 109.5 | 114.3 | 107.1 | 104.9 | 148.4 |
| 6300  | 89.9 | 95.0  | 96.1  | 97.4  | 97.2  | 99.7  | 101.2 | 103.1 | 107.7 | 108.3 | 112.8 | 106.1 | 103.6 | 147.6 |
| 8000  | 88.3 | 94.8  | 95.4  | 96.1  | 96.5  | 98.6  | 100.8 | 102.6 | 106.6 | 106.5 | 110.9 | 103.6 | 102.5 | 146.5 |
| 10000 | 87.2 | 92.7  | 94.8  | 95.8  | 97.2  | 98.9  | 100.4 | 101.4 | 105.4 | 105.3 | 110.4 | 103.8 | 102.1 | 146.3 |
| 12500 | 85.7 | 92.2  | 94.0  | 94.7  | 95.5  | 98.2  | 99.0  | 99.7  | 103.9 | 103.4 | 108.2 | 102.0 | 100.4 | 145.4 |
| 16000 | 83.7 | 90.9  | 92.9  | 94.1  | 94.2  | 95.6  | 97.7  | 98.1  | 102.3 | 101.0 | 106.0 | 100.4 | 98.4  | 144.8 |
| 20000 | 81.2 | 88.0  | 91.1  | 91.8  | 91.8  | 94.8  | 95.2  | 95.6  | 99.2  | 98.0  | 103.4 | 97.5  | 94.8  | 143.9 |
| 25000 | 78.2 | 85.2  | 90.5  | 89.1  | 90.2  | 92.8  | 93.7  | 92.5  | 96.3  | 95.0  | 99.0  | 94.7  | 92.2  | 143.3 |
| 31500 | 74.2 | 82.0  | 87.3  | 86.0  | 86.8  | 89.6  | 88.9  | 89.2  | 93.0  | 91.8  | 96.5  | 91.7  | 88.5  | 143.3 |
| 40000 | 69.7 | 77.2  | 87.0  | 80.8  | 82.4  | 85.8  | 84.8  | 84.6  | 89.0  | 88.3  | 92.6  | 88.1  | 83.0  | 143.5 |
| 50000 | 63.6 | 71.4  | 85.0  | 75.1  | 76.3  | 80.6  | 79.5  | 79.1  | 83.6  | 82.4  | 87.6  | 83.8  | 77.6  | 143.1 |
| 63000 | 58.4 | 65.8  | 83.6  | 69.6  | 71.5  | 75.1  | 73.9  | 74.3  | 78.5  | 78.1  | 82.1  | 79.6  | 71.4  | 144.3 |
| 80000 | 52.0 | 59.6  | 80.8  | 62.6  | 64.8  | 68.8  | 66.8  | 66.7  | 72.0  | 72.8  | 76.9  | 73.5  | 63.2  | 146.5 |

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OASPL 105.6 109.4 109.1 109.7 109.6 111.7 113.3 115.1 120.4 123.8 129.6 126.4 125.1 163.6  
PNL 117.9 122.3 121.7 122.0 122.1 124.3 126.0 128.1 133.0 135.7 141.8 137.0 135.4  
PNLT 117.9 123.3 121.7 122.0 122.1 124.3 126.0 128.1 133.0 135.7 141.8 137.0 135.4  
DBA 105.4 109.4 108.7 109.2 109.0 111.0 112.8 114.9 120.3 123.3 129.5 125.6 124.0

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH407 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINI = LBS XNL = RPM XNH = RPM V8 = 1490.6 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2294.9 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-ZER-7611 TAPE = X7611C TEST PT NO = 7611 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7611 X7611F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.1  | 82.2  | 81.7  | 81.5  | 82.3  | 84.9  | 86.8  | 87.0  | 87.2  | 87.2  | 95.1  | 95.8  | 95.0  | 130.9 |
| 63    | 90.3  | 86.0  | 87.1  | 87.6  | 90.2  | 93.1  | 94.0  | 93.1  | 94.3  | 95.4  | 102.8 | 102.7 | 101.9 | 138.1 |
| 80    | 87.3  | 92.6  | 88.3  | 89.4  | 88.5  | 91.3  | 92.0  | 90.6  | 93.1  | 92.2  | 95.8  | 97.0  | 98.4  | 134.5 |
| 100   | 86.5  | 92.7  | 88.3  | 90.8  | 91.1  | 92.5  | 93.1  | 93.8  | 95.0  | 95.8  | 97.7  | 101.1 | 102.3 | 137.1 |
| 125   | 82.9  | 86.9  | 88.9  | 91.2  | 90.8  | 92.2  | 92.3  | 91.7  | 94.4  | 96.5  | 103.6 | 104.6 | 105.5 | 139.4 |
| 160   | 82.7  | 83.7  | 86.7  | 87.0  | 86.9  | 89.2  | 90.9  | 89.9  | 94.7  | 97.6  | 103.9 | 105.6 | 108.3 | 140.3 |
| 200   | 85.8  | 86.1  | 86.3  | 88.4  | 89.5  | 91.8  | 92.7  | 93.1  | 98.6  | 100.9 | 106.3 | 108.5 | 110.1 | 142.8 |
| 250   | 85.3  | 89.3  | 89.3  | 89.9  | 89.2  | 91.3  | 94.5  | 95.9  | 99.3  | 105.9 | 111.0 | 112.2 | 112.4 | 146.3 |
| 315   | 85.8  | 89.4  | 87.9  | 89.7  | 91.5  | 94.1  | 95.3  | 96.2  | 101.6 | 108.0 | 113.1 | 113.5 | 113.4 | 147.9 |
| 400   | 87.6  | 89.8  | 90.1  | 90.9  | 91.2  | 93.6  | 96.0  | 97.2  | 103.4 | 111.7 | 115.6 | 114.8 | 113.4 | 149.8 |
| 500   | 87.6  | 91.4  | 90.6  | 92.4  | 92.8  | 95.6  | 96.3  | 98.2  | 105.1 | 113.0 | 117.3 | 115.5 | 113.7 | 151.0 |
| 630   | 89.0  | 92.8  | 92.1  | 93.6  | 93.2  | 96.8  | 98.5  | 100.1 | 106.3 | 114.9 | 118.5 | 116.2 | 114.6 | 152.3 |
| 800   | 93.1  | 93.9  | 94.4  | 94.9  | 95.0  | 97.1  | 99.3  | 101.4 | 108.1 | 114.2 | 119.3 | 117.0 | 115.4 | 152.8 |
| 1000  | 97.0  | 100.3 | 97.6  | 97.8  | 96.4  | 98.6  | 99.9  | 101.8 | 108.3 | 113.4 | 119.8 | 116.9 | 116.1 | 153.1 |
| 1250  | 96.4  | 100.7 | 100.0 | 100.9 | 100.1 | 101.0 | 101.6 | 103.3 | 109.0 | 111.5 | 119.2 | 116.6 | 115.6 | 152.6 |
| 1600  | 95.1  | 96.7  | 97.1  | 98.3  | 98.8  | 100.9 | 102.2 | 104.0 | 110.6 | 111.7 | 119.8 | 116.8 | 114.8 | 153.0 |
| 2000  | 96.5  | 100.1 | 97.7  | 98.1  | 97.5  | 99.6  | 101.8 | 104.4 | 109.7 | 112.5 | 119.0 | 114.4 | 111.9 | 152.0 |
| 2500  | 93.9  | 98.5  | 98.5  | 98.5  | 98.1  | 100.0 | 102.2 | 104.8 | 109.4 | 112.2 | 119.2 | 112.3 | 109.5 | 151.8 |
| 3150  | 93.8  | 99.1  | 97.9  | 97.6  | 98.0  | 100.0 | 101.9 | 104.1 | 109.2 | 111.3 | 117.3 | 110.0 | 108.0 | 150.4 |
| 4000  | 92.7  | 97.6  | 97.7  | 97.6  | 97.0  | 100.0 | 101.4 | 104.4 | 109.1 | 110.0 | 116.3 | 108.6 | 106.1 | 149.6 |
| 5000  | 91.0  | 95.9  | 96.6  | 97.0  | 96.7  | 98.9  | 101.6 | 103.4 | 108.7 | 109.5 | 114.3 | 107.1 | 104.9 | 148.4 |
| 6300  | 89.9  | 95.0  | 96.1  | 97.4  | 97.2  | 99.7  | 101.2 | 103.1 | 107.7 | 108.3 | 112.8 | 106.1 | 103.6 | 147.6 |
| 8000  | 88.3  | 94.8  | 95.4  | 95.1  | 96.5  | 98.6  | 100.8 | 102.6 | 106.6 | 106.5 | 110.9 | 103.6 | 102.5 | 146.5 |
| 10000 | 87.2  | 92.7  | 94.8  | 95.8  | 97.2  | 98.9  | 100.4 | 101.4 | 105.4 | 105.3 | 110.4 | 103.8 | 102.1 | 146.3 |
| 12500 | 85.7  | 92.2  | 94.0  | 94.7  | 95.5  | 98.2  | 99.0  | 99.7  | 103.9 | 103.4 | 108.2 | 102.0 | 100.4 | 145.4 |
| 16000 | 83.7  | 90.9  | 92.9  | 94.1  | 94.2  | 95.6  | 97.7  | 98.1  | 102.3 | 101.0 | 106.0 | 100.4 | 98.4  | 144.8 |
| 20000 | 81.2  | 88.0  | 91.1  | 91.8  | 91.8  | 94.8  | 95.2  | 95.6  | 99.2  | 98.0  | 103.4 | 97.5  | 94.8  | 143.9 |
| 25000 | 78.2  | 85.2  | 90.5  | 89.1  | 90.2  | 92.8  | 93.7  | 92.5  | 96.3  | 95.0  | 99.0  | 94.7  | 92.2  | 143.3 |
| 31500 | 74.2  | 82.0  | 87.3  | 86.0  | 86.8  | 89.6  | 88.9  | 89.2  | 93.0  | 91.8  | 96.5  | 91.7  | 88.5  | 143.3 |
| 40000 | 69.7  | 77.2  | 87.0  | 80.8  | 82.4  | 85.8  | 84.8  | 84.6  | 89.0  | 88.3  | 92.6  | 88.1  | 83.0  | 143.5 |
| 50000 | 63.6  | 71.4  | 85.0  | 75.1  | 76.3  | 80.6  | 79.5  | 79.1  | 83.6  | 82.4  | 87.6  | 83.8  | 77.6  | 143.1 |
| 63000 | 58.4  | 65.8  | 83.6  | 69.6  | 71.5  | 75.1  | 73.9  | 74.3  | 78.5  | 78.1  | 82.1  | 79.6  | 71.4  | 144.3 |
| 80000 | 52.0  | 59.6  | 80.8  | 62.6  | 64.8  | 68.8  | 66.8  | 66.7  | 72.0  | 72.8  | 76.9  | 73.5  | 63.2  | 146.5 |
| DASPL | 105.6 | 109.4 | 109.1 | 109.7 | 109.6 | 111.7 | 113.3 | 115.1 | 120.4 | 123.8 | 129.6 | 126.4 | 125.1 | 163.6 |
| PNL   | 117.9 | 122.3 | 121.7 | 122.0 | 122.1 | 124.3 | 126.0 | 128.1 | 133.0 | 135.7 | 141.8 | 137.0 | 135.4 |       |
| PNLT  | 117.9 | 123.3 | 121.7 | 122.0 | 122.1 | 124.3 | 126.0 | 128.1 | 133.0 | 135.7 | 141.8 | 137.0 | 135.4 |       |
| DBA   | 174.2 | 181.8 | 201.7 | 185.1 | 187.1 | 191.0 | 189.3 | 189.3 | 194.2 | 194.5 | 198.6 | 195.4 | 186.4 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH407 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1490.6 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2294.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7611 TAPE = X7611F TEST PT NO = 7611 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, 38 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-7611 X76111

ANGLES MEASURED FROM INLET, DEGREES

| FREQ                                                                                                                    | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------------------------------------------------------------------------------------------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|------|-------|
| 50                                                                                                                      | 66.3 | 70.1 | 71.4 | 72.9 | 73.7 | 76.2 | 78.4  | 79.2  | 84.7  | 91.9  | 94.3  | 91.2  | 86.6 | 167.9 |
| 63                                                                                                                      | 66.3 | 71.6 | 71.9 | 74.4 | 75.2 | 78.2 | 78.7  | 80.2  | 86.4  | 93.2  | 96.0  | 92.0  | 86.8 | 169.2 |
| 80                                                                                                                      | 67.7 | 73.0 | 73.3 | 75.6 | 75.6 | 79.3 | 80.8  | 82.1  | 87.6  | 95.1  | 97.2  | 92.6  | 87.6 | 170.4 |
| 100                                                                                                                     | 71.6 | 74.0 | 75.6 | 76.8 | 77.3 | 79.6 | 81.6  | 83.3  | 89.3  | 94.3  | 97.9  | 93.3  | 88.3 | 171.0 |
| 125                                                                                                                     | 75.4 | 80.3 | 78.7 | 79.7 | 78.7 | 80.9 | 82.2  | 83.7  | 89.4  | 93.4  | 98.2  | 93.1  | 88.7 | 171.2 |
| 160                                                                                                                     | 74.6 | 80.5 | 80.9 | 82.6 | 82.2 | 83.2 | 83.7  | 85.0  | 89.9  | 91.4  | 97.4  | 92.5  | 87.9 | 170.7 |
| 200                                                                                                                     | 73.1 | 76.4 | 77.9 | 79.8 | 80.7 | 83.0 | 84.2  | 85.6  | 91.4  | 91.4  | 97.6  | 92.3  | 86.5 | 171.1 |
| 250                                                                                                                     | 74.2 | 79.4 | 78.3 | 79.4 | 79.2 | 81.5 | 83.6  | 85.7  | 90.3  | 91.9  | 96.7  | 89.5  | 83.0 | 170.2 |
| 315                                                                                                                     | 71.1 | 77.5 | 78.8 | 79.6 | 79.7 | 81.7 | 83.7  | 85.9  | 89.7  | 91.2  | 96.5  | 86.9  | 79.9 | 169.9 |
| 400                                                                                                                     | 70.5 | 77.7 | 77.8 | 78.4 | 79.2 | 81.4 | 83.1  | 84.9  | 89.1  | 89.9  | 94.0  | 83.9  | 77.3 | 168.5 |
| 500                                                                                                                     | 69.0 | 75.8 | 77.2 | 78.0 | 78.0 | 81.1 | 82.3  | 84.9  | 88.6  | 88.3  | 92.5  | 81.9  | 74.4 | 167.7 |
| 630                                                                                                                     | 66.8 | 73.8 | 75.8 | 77.1 | 77.4 | 79.8 | 82.2  | 83.6  | 87.9  | 87.4  | 90.1  | 79.7  | 72.1 | 166.6 |
| 800                                                                                                                     | 65.2 | 72.5 | 75.0 | 77.3 | 77.6 | 80.3 | 81.6  | 83.0  | 86.6  | 85.8  | 88.1  | 78.0  | 69.7 | 165.7 |
| 1000                                                                                                                    | 63.1 | 72.0 | 74.1 | 75.8 | 76.8 | 79.0 | 81.0  | 82.3  | 85.3  | 83.6  | 85.8  | 74.9  | 67.5 | 164.6 |
| 1250                                                                                                                    | 61.5 | 69.6 | 73.2 | 75.3 | 77.3 | 79.3 | 80.6  | 80.9  | 83.8  | 82.1  | 84.7  | 74.2  | 65.6 | 164.5 |
| 1600                                                                                                                    | 59.2 | 68.4 | 72.1 | 73.9 | 75.3 | 78.3 | 78.9  | 78.9  | 81.9  | 79.6  | 81.7  | 71.0  | 61.6 | 163.5 |
| 2000                                                                                                                    | 56.2 | 66.6 | 70.5 | 73.1 | 73.9 | 75.6 | 77.4  | 77.1  | 79.9  | 76.6  | 78.5  | 67.9  | 56.6 | 163.0 |
| 2500                                                                                                                    | 51.9 | 62.4 | 67.9 | 70.1 | 70.9 | 74.2 | 74.3  | 73.8  | 76.0  | 72.4  | 74.1  | 62.1  | 48.1 | 162.1 |
| 3150                                                                                                                    | 45.6 | 57.2 | 65.4 | 65.8 | 67.9 | 70.8 | 71.4  | 69.2  | 71.2  | 67.0  | 66.3  | 54.4  | 37.0 | 161.5 |
| 4000                                                                                                                    | 35.3 | 49.3 | 58.4 | 59.5 | 61.5 | 64.8 | 63.6  | 62.7  | 64.1  | 59.0  | 57.6  | 42.4  | 18.9 | 161.4 |
| 5000                                                                                                                    | 21.0 | 36.9 | 51.8 | 48.8 | 52.2 | 56.1 | 54.6  | 52.7  | 53.9  | 48.0  | 43.9  | 25.1  |      | 161.6 |
| 6300                                                                                                                    |      | 16.8 | 37.8 | 32.4 | 36.0 | 41.0 | 39.2  | 36.3  | 36.4  | 27.8  | 21.1  |       |      | 161.2 |
| 8000                                                                                                                    |      |      | 15.0 | 7.6  | 13.1 | 17.8 | 15.5  | 12.3  | 10.0  |       |       |       |      | 162.4 |
| 10000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      | 164.6 |
| 12500                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 16000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 20000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 25000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 31500                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 40000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 50000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 63000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| 80000                                                                                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| GASPL                                                                                                                   | 82.7 | 88.2 | 88.8 | 90.2 | 90.5 | 92.7 | 94.2  | 95.7  | 100.4 | 103.1 | 107.2 | 101.6 | 96.4 | 181.4 |
| PNL                                                                                                                     | 86.0 | 92.7 | 94.7 | 96.5 | 97.2 | 99.7 | 100.9 | 101.5 | 105.5 | 106.2 | 110.2 | 102.9 | 96.4 |       |
| PNLT                                                                                                                    | 86.0 | 93.2 | 94.7 | 96.5 | 97.2 | 99.7 | 100.9 | 101.5 | 105.5 | 107.2 | 111.2 | 102.9 | 96.4 |       |
| DBA                                                                                                                     | 74.7 | 81.7 | 83.7 | 85.3 | 86.1 | 88.5 | 89.9  | 91.1  | 94.7  | 94.4  | 98.2  | 89.6  | 83.2 |       |
| MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9 |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                                             |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| VEHICL = ADH407 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS                          |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.7 PCT                         |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBER =                                     |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1490.6 FPS AE8 = 3.4 SQ IN                                                         |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2294.9 FPS AE18 = 18.0 SQ IN                                                   |      |      |      |      |      |      |       |       |       |       |       |       |      |       |
| RUNPT = 82F-ZER-7611 TAPE = X76111 TEST PT NO = 7611 NC = AE074 CORR FAN SPEED = RPM                                    |      |      |      |      |      |      |       |       |       |       |       |       |      |       |

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OF 2003 QUALITY

497  
50-88110

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7612 X7612C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 86.1 | 84.4 | 79.9 | 82.0 | 81.6 | 81.4 | 82.6 | 82.0  | 84.7  | 88.0  | 90.6  | 91.6  | 97.2  | 129.2 |
| 63    | 89.0 | 87.6 | 85.1 | 87.1 | 88.4 | 88.3 | 89.4 | 84.9  | 90.1  | 95.4  | 93.8  | 95.7  | 97.4  | 133.1 |
| 80    | 87.5 | 91.6 | 86.6 | 88.4 | 87.5 | 90.1 | 90.7 | 89.1  | 92.1  | 91.9  | 93.0  | 95.7  | 98.6  | 133.5 |
| 100   | 85.5 | 90.5 | 86.5 | 88.3 | 88.9 | 90.0 | 90.4 | 91.3  | 92.5  | 93.3  | 95.2  | 99.1  | 101.6 | 135.1 |
| 125   | 83.9 | 85.4 | 86.9 | 89.5 | 89.1 | 90.4 | 90.8 | 89.5  | 91.2  | 94.5  | 100.6 | 102.6 | 104.5 | 137.4 |
| 160   | 82.2 | 81.0 | 84.5 | 84.8 | 84.4 | 85.7 | 86.9 | 86.0  | 90.2  | 94.6  | 100.9 | 103.4 | 106.8 | 138.0 |
| 200   | 83.5 | 82.8 | 81.8 | 83.9 | 84.5 | 87.3 | 88.7 | 89.6  | 94.1  | 95.9  | 101.3 | 105.5 | 107.1 | 139.1 |
| 250   | 81.0 | 83.6 | 83.8 | 85.1 | 86.2 | 87.8 | 89.2 | 90.9  | 94.8  | 100.9 | 106.5 | 109.0 | 108.4 | 142.3 |
| 315   | 83.1 | 85.4 | 83.6 | 85.9 | 86.8 | 89.1 | 90.8 | 91.7  | 97.1  | 102.5 | 108.3 | 109.8 | 108.4 | 143.4 |
| 400   | 83.8 | 84.6 | 85.6 | 86.4 | 86.8 | 89.4 | 91.3 | 92.9  | 98.9  | 106.4 | 111.8 | 111.0 | 106.7 | 145.4 |
| 500   | 84.6 | 86.6 | 86.4 | 87.9 | 88.5 | 91.6 | 92.0 | 94.4  | 100.7 | 108.7 | 113.1 | 110.8 | 102.4 | 146.3 |
| 630   | 85.3 | 87.6 | 87.6 | 89.4 | 89.2 | 91.8 | 94.2 | 95.9  | 101.8 | 110.4 | 114.6 | 110.5 | 99.6  | 147.4 |
| 800   | 87.3 | 86.4 | 88.4 | 89.7 | 89.8 | 92.9 | 94.8 | 97.4  | 103.9 | 110.5 | 114.6 | 108.3 | 97.2  | 147.3 |
| 1000  | 89.8 | 89.6 | 89.1 | 90.9 | 90.9 | 94.1 | 95.2 | 98.1  | 104.6 | 110.1 | 113.5 | 105.7 | 95.6  | 146.5 |
| 1250  | 88.4 | 91.7 | 90.2 | 91.6 | 91.9 | 94.7 | 96.1 | 99.3  | 105.7 | 109.0 | 111.7 | 103.4 | 94.6  | 145.4 |
| 1600  | 88.3 | 89.2 | 89.9 | 92.0 | 92.8 | 95.6 | 97.2 | 100.3 | 107.1 | 109.2 | 111.8 | 101.5 | 93.5  | 145.8 |
| 2000  | 89.3 | 89.6 | 89.0 | 92.4 | 92.2 | 95.3 | 97.5 | 100.9 | 106.2 | 109.3 | 110.0 | 99.3  | 93.6  | 145.0 |
| 2500  | 89.1 | 90.9 | 89.0 | 92.0 | 92.4 | 95.7 | 97.9 | 101.3 | 106.2 | 109.7 | 110.2 | 99.5  | 93.3  | 145.3 |
| 3150  | 91.0 | 91.8 | 89.3 | 92.1 | 92.9 | 96.2 | 98.1 | 101.1 | 106.2 | 108.3 | 108.5 | 99.7  | 93.4  | 144.4 |
| 4000  | 92.2 | 92.5 | 89.6 | 92.8 | 93.0 | 96.2 | 97.6 | 101.1 | 106.0 | 108.0 | 109.2 | 100.3 | 94.0  | 144.6 |
| 5000  | 93.4 | 93.8 | 90.2 | 93.9 | 92.9 | 95.8 | 98.0 | 100.8 | 105.3 | 107.4 | 107.7 | 99.8  | 93.8  | 144.0 |
| 6300  | 92.5 | 93.6 | 90.4 | 94.5 | 93.3 | 95.2 | 97.3 | 100.0 | 105.0 | 106.4 | 106.4 | 99.4  | 93.2  | 143.5 |
| 8000  | 91.8 | 94.1 | 89.6 | 93.9 | 93.8 | 95.8 | 97.0 | 99.9  | 104.1 | 104.9 | 103.9 | 97.1  | 91.5  | 142.6 |
| 10000 | 91.4 | 93.1 | 89.6 | 95.7 | 94.9 | 96.9 | 97.4 | 99.1  | 102.7 | 103.4 | 103.0 | 97.5  | 91.5  | 142.4 |
| 12500 | 91.6 | 92.5 | 89.3 | 94.5 | 93.8 | 96.1 | 96.1 | 97.6  | 101.4 | 100.9 | 100.8 | 95.6  | 90.8  | 141.6 |
| 16000 | 90.1 | 92.7 | 88.2 | 94.0 | 92.8 | 94.5 | 95.6 | 96.2  | 99.8  | 98.7  | 98.8  | 94.8  | 89.8  | 141.5 |
| 20000 | 87.2 | 89.7 | 86.3 | 92.3 | 90.8 | 93.6 | 93.4 | 94.3  | 97.2  | 96.2  | 96.4  | 92.3  | 87.4  | 141.1 |
| 25000 | 83.2 | 86.8 | 83.0 | 89.8 | 89.4 | 92.2 | 92.7 | 92.0  | 95.0  | 92.6  | 92.8  | 90.0  | 85.4  | 141.1 |
| 31500 | 79.3 | 83.0 | 79.5 | 86.1 | 86.1 | 88.7 | 88.5 | 89.3  | 92.0  | 89.7  | 89.7  | 87.0  | 81.8  | 141.0 |
| 40000 | 75.6 | 78.6 | 78.4 | 82.4 | 82.2 | 86.0 | 84.9 | 85.3  | 89.2  | 87.0  | 85.6  | 83.3  | 77.2  | 141.7 |
| 50000 | 68.6 | 72.8 | 76.6 | 76.7 | 76.9 | 80.7 | 79.4 | 79.9  | 84.0  | 80.8  | 80.3  | 78.6  | 71.5  | 140.7 |
| 63000 | 63.7 | 66.8 | 77.5 | 71.1 | 72.1 | 75.8 | 73.7 | 75.3  | 78.7  | 76.0  | 75.4  | 74.5  | 64.8  | 141.6 |
| 80000 | 56.2 | 60.7 | 77.2 | 64.2 | 65.8 | 69.8 | 67.0 | 67.8  | 70.7  | 69.7  | 69.0  | 67.1  | 56.8  | 143.4 |

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GASFL 103.3 104.7 102.4 105.8 105.6 108.2 109.5 111.9 117.0 120.6 123.3 119.2 116.1 158.5  
PNL 115.9 116.8 114.5 117.5 117.5 120.4 122.0 124.7 129.8 132.8 134.4 128.0 123.5  
PNLT 115.9 116.8 114.5 117.5 117.5 120.4 122.0 124.7 129.8 132.8 134.4 128.0 123.5  
DBA 102.0 103.0 101.0 104.0 104.0 106.9 108.6 111.5 116.9 120.3 122.5 116.2 109.8

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH418 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.42 RELHUM = 63.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1520.3 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2283.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7612 TAPE = X7612C TEST PT NO = 7612 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-7612 X7612F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.  | 70.   | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 63    |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 80    |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 100   |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 125   |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 160   |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 200   |      |       |      |       |      |      |      |       |       |       |       |       |       |       |
| 250   | 88.9 | 90.0  | 88.8 | 88.4  | 87.8 | 87.8 | 87.3 | 87.3  | 93.7  | 98.1  | 103.5 | 105.3 | 105.8 | 139.4 |
| 315   | 88.9 | 90.0  | 88.7 | 88.4  | 88.5 | 89.3 | 89.4 | 88.9  | 96.9  | 103.9 | 109.1 | 109.2 | 107.4 | 143.5 |
| 400   | 90.2 | 91.4  | 88.4 | 89.2  | 88.5 | 89.6 | 90.5 | 91.1  | 98.4  | 106.0 | 110.5 | 109.8 | 105.2 | 144.4 |
| 500   | 90.9 | 90.6  | 90.3 | 89.7  | 90.4 | 92.0 | 91.0 | 92.2  | 99.6  | 107.7 | 112.1 | 110.2 | 104.2 | 145.5 |
| 630   | 92.3 | 93.0  | 91.4 | 91.4  | 91.2 | 92.3 | 93.2 | 93.6  | 102.0 | 108.2 | 112.7 | 109.2 | 104.4 | 145.9 |
| 800   | 93.0 | 94.0  | 92.6 | 92.9  | 91.8 | 93.4 | 93.8 | 95.1  | 103.2 | 108.4 | 112.4 | 108.0 | 105.4 | 145.8 |
| 1000  | 95.0 | 92.8  | 93.5 | 93.3  | 92.9 | 94.7 | 94.4 | 96.0  | 104.5 | 107.5 | 110.6 | 105.7 | 104.5 | 144.7 |
| 1250  | 96.2 | 95.2  | 93.6 | 94.2  | 94.1 | 95.5 | 95.4 | 97.3  | 106.0 | 107.6 | 110.7 | 103.5 | 102.7 | 144.9 |
| 1600  | 95.6 | 97.9  | 95.2 | 95.2  | 95.2 | 96.7 | 96.7 | 98.4  | 105.4 | 108.0 | 109.2 | 101.7 | 103.2 | 144.5 |
| 2000  | 96.0 | 95.8  | 95.1 | 95.9  | 94.9 | 96.6 | 97.3 | 99.3  | 105.6 | 108.8 | 109.7 | 102.2 | 103.0 | 145.0 |
| 2500  | 96.9 | 96.1  | 94.3 | 96.4  | 95.3 | 97.3 | 98.1 | 100.1 | 106.3 | 108.1 | 108.9 | 103.5 | 104.8 | 145.0 |
| 3150  | 96.8 | 97.5  | 94.5 | 96.2  | 96.2 | 98.3 | 98.7 | 100.4 | 106.8 | 108.4 | 110.2 | 104.5 | 105.7 | 145.8 |
| 4000  | 98.6 | 98.4  | 94.9 | 96.5  | 96.7 | 98.7 | 98.7 | 101.1 | 106.3 | 108.0 | 108.9 | 104.3 | 105.8 | 145.5 |
| 5000  | 99.7 | 99.2  | 95.3 | 97.4  | 96.8 | 98.8 | 99.5 | 100.9 | 106.1 | 107.1 | 107.8 | 104.2 | 105.4 | 145.2 |
| 6300  | 99.8 | 99.8  | 95.6 | 98.4  | 97.3 | 99.2 | 98.8 | 100.1 | 105.3 | 105.8 | 105.3 | 101.9 | 103.8 | 144.4 |
| 8000  | 99.8 | 100.1 | 95.1 | 99.2  | 97.8 | 98.8 | 98.5 | 100.0 | 104.6 | 105.0 | 105.3 | 103.2 | 104.6 | 144.7 |
| 10000 | 98.9 | 100.5 | 95.1 | 98.4  | 98.9 | 99.9 | 99.3 | 99.6  | 104.3 | 103.6 | 104.1 | 102.3 | 104.8 | 144.8 |
| 12500 | 98.2 | 99.2  | 94.9 | 100.0 | 97.9 | 99.1 | 98.4 | 98.7  | 103.7 | 102.4 | 103.1 | 102.3 | 104.4 | 145.0 |
| 16000 | 97.9 | 98.1  | 94.0 | 98.2  | 96.8 | 97.5 | 98.0 | 97.8  | 101.6 | 100.4 | 101.1 | 100.1 | 102.2 | 144.8 |
| 20000 | 96.0 | 97.9  | 92.5 | 97.3  | 94.9 | 96.6 | 95.9 | 96.0  | 99.9  | 97.0  | 97.3  | 97.2  | 99.5  | 144.5 |
| 25000 | 92.5 | 94.3  | 90.0 | 95.0  | 94.0 | 95.2 | 94.9 | 93.5  | 98.0  | 95.4  | 95.6  | 95.9  | 97.5  | 145.0 |
| 31500 | 90.5 | 92.8  | 87.7 | 92.9  | 90.7 | 91.7 | 90.9 | 91.1  | 95.9  | 93.7  | 92.9  | 93.9  | 94.9  | 145.6 |
| 40000 | 85.8 | 88.2  | 83.3 | 86.4  | 86.8 | 89.0 | 87.3 | 87.0  | 91.1  | 87.8  | 88.0  | 89.5  | 89.6  | 145.2 |
| 50000 | 81.7 | 83.5  | 81.8 | 84.3  | 81.5 | 83.7 | 81.8 | 81.6  | 86.3  | 83.4  | 83.4  | 86.0  | 83.6  | 144.9 |
| 63000 | 73.7 | 76.7  | 79.1 | 77.6  | 76.3 | 78.8 | 76.0 | 76.7  | 79.6  | 78.3  | 78.4  | 79.9  | 77.1  | 144.6 |
| 80000 | 65.3 | 67.6  | 77.4 | 69.8  | 69.6 | 72.8 | 69.3 | 69.0  | 69.7  | 68.5  | 68.6  | 70.1  | 67.2  | 144.7 |

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GASPL 109.8 110.3 107.0 109.4 108.5 110.0 110.0 111.2 117.2 119.5 122.1 118.7 117.7 159.0  
 PNL 121.4 121.4 118.4 119.9 119.7 121.5 121.6 123.4 129.4 131.6 133.5 128.9 129.3  
 PNLT 121.4 121.4 118.4 119.9 119.7 121.5 121.6 123.4 129.4 131.6 133.5 128.9 129.3  
 DBA 188.9 191.3 198.1 192.7 191.9 194.7 191.7 191.7 193.9 192.3 192.3 194.0 191.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH418 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPI 4A = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.42 RELHUM = 63.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1520.3 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2283.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7612 TAPE = X7612F TEST PT NO = 7612 NC = AE075 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-7612 X76121

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|-------|-------|-------|------|------|-------|
| 50    | 68.9 | 71.7 | 69.7 | 71.2 | 71.0 | 72.2 | 72.9 | 73.2 | 79.7  | 86.2  | 89.2  | 86.3 | 78.3 | 162.5 |
| 63    | 69.6 | 70.8 | 71.6 | 71.7 | 72.8 | 74.5 | 73.4 | 74.2 | 80.9  | 87.9  | 90.7  | 86.6 | 77.3 | 163.7 |
| 80    | 70.9 | 73.2 | 72.6 | 73.4 | 73.6 | 74.8 | 75.6 | 75.5 | 83.3  | 88.4  | 91.3  | 85.6 | 77.4 | 164.0 |
| 100   | 71.5 | 74.1 | 73.8 | 74.8 | 74.2 | 75.9 | 76.1 | 77.1 | 84.3  | 88.5  | 90.9  | 84.3 | 78.3 | 163.9 |
| 125   | 73.4 | 72.8 | 74.6 | 75.1 | 75.2 | 77.1 | 76.6 | 77.8 | 85.6  | 87.5  | 89.1  | 81.8 | 77.1 | 162.9 |
| 160   | 74.5 | 75.0 | 74.6 | 75.9 | 76.2 | 77.8 | 77.6 | 79.0 | 86.9  | 87.5  | 88.9  | 79.4 | 75.0 | 163.1 |
| 200   | 73.5 | 77.5 | 76.0 | 76.8 | 77.2 | 78.8 | 78.7 | 80.0 | 86.2  | 87.6  | 87.2  | 77.3 | 75.0 | 162.7 |
| 250   | 73.6 | 75.1 | 75.7 | 77.2 | 76.6 | 78.5 | 79.1 | 80.6 | 86.2  | 88.2  | 87.4  | 77.3 | 74.1 | 163.1 |
| 315   | 74.1 | 75.2 | 74.6 | 77.4 | 76.8 | 79.0 | 79.6 | 81.1 | 86.5  | 87.1  | 86.2  | 78.1 | 75.1 | 163.1 |
| 400   | 73.5 | 76.2 | 74.4 | 76.9 | 77.4 | 79.6 | 79.9 | 81.1 | 86.7  | 87.0  | 86.9  | 78.4 | 75.0 | 163.9 |
| 500   | 74.8 | 76.7 | 74.5 | 76.9 | 77.6 | 79.8 | 79.7 | 81.5 | 85.8  | 86.3  | 85.2  | 77.6 | 74.1 | 163.6 |
| 630   | 75.5 | 77.0 | 74.6 | 77.6 | 77.4 | 79.7 | 80.1 | 81.1 | 85.3  | 85.0  | 83.5  | 76.8 | 72.7 | 163.4 |
| 800   | 75.1 | 77.3 | 74.5 | 78.3 | 77.8 | 79.8 | 79.2 | 80.0 | 84.2  | 83.2  | 80.6  | 73.8 | 69.9 | 162.5 |
| 1000  | 74.7 | 77.3 | 74.8 | 78.9 | 78.1 | 79.3 | 78.8 | 79.7 | 83.3  | 82.1  | 80.1  | 74.4 | 69.6 | 162.8 |
| 1250  | 73.3 | 77.3 | 73.6 | 77.9 | 79.0 | 80.2 | 79.4 | 79.2 | 82.7  | 80.4  | 78.5  | 72.7 | 68.3 | 162.9 |
| 1600  | 71.7 | 75.5 | 72.9 | 79.2 | 77.7 | 79.1 | 78.2 | 77.9 | 81.8  | 78.7  | 76.6  | 71.4 | 65.5 | 163.1 |
| 2000  | 70.4 | 73.7 | 71.7 | 77.2 | 76.5 | 77.4 | 77.7 | 76.7 | 79.3  | 76.0  | 73.6  | 67.5 | 60.4 | 162.9 |
| 2500  | 66.7 | 72.3 | 69.3 | 75.6 | 74.0 | 76.0 | 75.0 | 74.3 | 76.7  | 71.4  | 68.0  | 61.9 | 52.7 | 162.7 |
| 3150  | 59.9 | 66.3 | 65.0 | 71.8 | 71.8 | 73.3 | 72.6 | 70.2 | 72.9  | 67.3  | 63.0  | 55.5 | 42.3 | 163.1 |
| 4000  | 51.6 | 60.1 | 58.8 | 66.4 | 65.5 | 66.9 | 65.7 | 64.6 | 67.0  | 60.9  | 54.0  | 44.6 | 25.2 | 163.8 |
| 5000  | 37.1 | 47.9 | 48.2 | 56.4 | 56.6 | 59.4 | 57.1 | 55.0 | 56.0  | 47.5  | 39.3  | 26.5 |      | 163.3 |
| 6300  | 15.3 | 28.9 | 34.5 | 41.5 | 41.2 | 44.1 | 41.5 | 38.8 | 39.1  | 28.8  | 16.9  |      |      | 163.0 |
| 8000  |      |      | 10.5 | 15.6 | 17.9 | 21.5 | 17.6 | 14.7 | 11.0  |       |       |      |      | 162.7 |
| 10000 |      |      |      |      |      |      |      |      |       |       |       |      |      | 162.9 |
| 12500 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |       |       |       |      |      |       |
| OASPL | 85.7 | 88.0 | 86.4 | 89.3 | 89.1 | 90.9 | 90.7 | 91.6 | 97.0  | 98.6  | 99.6  | 93.4 | 87.2 | 177.0 |
| PNL   | 92.6 | 96.1 | 94.1 | 98.7 | 98.1 | 99.8 | 99.5 | 99.3 | 103.5 | 103.1 | 102.5 | 95.0 | 90.0 |       |
| PNLT  | 92.6 | 96.1 | 94.7 | 99.3 | 98.1 | 99.8 | 99.5 | 99.3 | 104.1 | 103.1 | 102.5 | 95.0 | 90.0 |       |
| DBA   | 82.5 | 85.5 | 83.0 | 87.4 | 87.0 | 88.6 | 88.2 | 88.6 | 92.6  | 91.8  | 90.5  | 83.4 | 79.2 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH418 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.42 RELHUM = 63.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1520.3 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2283.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7612 TAPE = X76121 TEST PT NO = 7612 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7613 X7613C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.1  | 85.7  | 82.4  | 83.2  | 82.8  | 85.7  | 85.8  | 86.7  | 88.7  | 87.2  | 85.1  | 95.6  | 95.2  | 131.1 |
| 63    | 87.8  | 92.3  | 88.1  | 89.9  | 89.9  | 93.6  | 93.7  | 91.9  | 95.1  | 95.1  | 102.8 | 103.0 | 101.4 | 138.2 |
| 80    | 88.8  | 93.6  | 88.6  | 90.1  | 89.5  | 91.8  | 93.0  | 91.6  | 93.8  | 92.9  | 96.5  | 97.7  | 99.4  | 135.4 |
| 100   | 87.2  | 93.7  | 89.3  | 91.5  | 91.9  | 93.3  | 94.4  | 95.0  | 95.8  | 97.1  | 98.5  | 101.9 | 103.6 | 138.0 |
| 125   | 83.9  | 88.2  | 89.7  | 91.7  | 91.8  | 93.4  | 93.8  | 92.7  | 95.4  | 98.0  | 104.6 | 105.6 | 107.0 | 140.5 |
| 160   | 83.4  | 85.0  | 87.5  | 87.8  | 87.1  | 90.2  | 92.4  | 91.0  | 95.0  | 98.6  | 104.9 | 106.9 | 109.8 | 141.5 |
| 200   | 86.8  | 87.6  | 86.6  | 89.6  | 90.0  | 92.6  | 94.0  | 94.4  | 99.8  | 101.4 | 107.5 | 110.0 | 111.1 | 144.0 |
| 250   | 85.8  | 89.8  | 89.6  | 90.1  | 90.2  | 92.3  | 95.2  | 97.1  | 100.3 | 106.1 | 111.5 | 113.5 | 113.4 | 147.2 |
| 315   | 87.3  | 90.6  | 89.1  | 90.4  | 92.0  | 94.6  | 96.3  | 97.2  | 103.1 | 108.5 | 114.6 | 114.5 | 114.9 | 149.1 |
| 400   | 88.6  | 90.3  | 90.6  | 91.7  | 92.0  | 94.4  | 96.7  | 97.9  | 105.1 | 112.2 | 117.1 | 116.5 | 114.4 | 151.1 |
| 500   | 88.8  | 92.9  | 91.6  | 93.2  | 93.8  | 96.1  | 97.5  | 99.9  | 106.9 | 114.5 | 118.3 | 116.8 | 114.9 | 152.2 |
| 630   | 90.8  | 94.1  | 93.6  | 94.4  | 94.2  | 97.3  | 99.7  | 100.9 | 107.3 | 116.4 | 119.3 | 117.7 | 116.1 | 153.4 |
| 800   | 95.1  | 94.4  | 95.6  | 95.9  | 95.8  | 98.1  | 100.0 | 102.2 | 109.4 | 115.7 | 120.3 | 118.3 | 116.9 | 154.0 |
| 1000  | 100.8 | 103.8 | 100.1 | 99.3  | 97.7  | 99.8  | 100.9 | 103.1 | 110.1 | 114.6 | 120.3 | 118.4 | 117.1 | 154.0 |
| 1250  | 98.2  | 101.9 | 103.0 | 103.6 | 102.6 | 103.0 | 102.3 | 104.0 | 110.7 | 113.8 | 120.7 | 118.1 | 115.9 | 154.1 |
| 1600  | 97.1  | 98.0  | 98.1  | 99.5  | 100.0 | 101.9 | 103.5 | 105.0 | 112.4 | 114.2 | 121.6 | 118.0 | 114.8 | 154.6 |
| 2000  | 98.5  | 101.8 | 99.5  | 99.1  | 98.5  | 100.8 | 103.3 | 105.1 | 111.7 | 114.0 | 121.0 | 115.1 | 111.9 | 153.7 |
| 2500  | 96.4  | 100.0 | 100.0 | 100.3 | 99.1  | 101.8 | 103.4 | 106.1 | 111.4 | 114.5 | 119.7 | 112.5 | 110.3 | 152.8 |
| 3150  | 96.8  | 100.8 | 99.9  | 99.4  | 99.7  | 101.5 | 103.2 | 105.9 | 111.2 | 113.5 | 117.0 | 111.7 | 107.7 | 151.3 |
| 4000  | 94.7  | 98.6  | 98.9  | 99.6  | 99.3  | 101.0 | 102.9 | 106.2 | 110.8 | 112.5 | 115.8 | 110.1 | 106.6 | 150.4 |
| 5000  | 93.0  | 96.9  | 97.6  | 99.0  | 99.2  | 101.2 | 102.8 | 105.2 | 110.2 | 111.8 | 114.6 | 108.4 | 105.1 | 149.6 |
| 6300  | 91.2  | 96.0  | 96.8  | 98.1  | 98.7  | 101.4 | 102.4 | 104.6 | 108.9 | 110.1 | 113.6 | 107.3 | 104.1 | 148.7 |
| 8000  | 90.3  | 95.6  | 96.1  | 97.1  | 98.0  | 100.8 | 102.2 | 103.6 | 108.3 | 109.0 | 111.7 | 105.4 | 102.5 | 147.9 |
| 10000 | 89.2  | 95.0  | 96.0  | 97.3  | 97.9  | 100.2 | 102.2 | 103.1 | 106.8 | 106.8 | 110.1 | 105.5 | 102.3 | 147.2 |
| 12500 | 87.7  | 93.4  | 95.5  | 96.7  | 97.7  | 99.7  | 100.5 | 101.5 | 105.6 | 105.1 | 108.5 | 103.2 | 100.7 | 146.6 |
| 16000 | 86.0  | 93.2  | 93.8  | 95.6  | 96.4  | 97.6  | 99.2  | 99.9  | 104.0 | 103.2 | 106.5 | 101.9 | 99.2  | 146.2 |
| 20000 | 83.2  | 89.7  | 92.3  | 93.8  | 93.8  | 96.8  | 97.2  | 97.1  | 101.7 | 100.2 | 104.4 | 99.0  | 95.4  | 145.7 |
| 25000 | 80.5  | 87.5  | 91.0  | 91.1  | 92.2  | 94.3  | 95.4  | 94.0  | 98.3  | 96.8  | 99.8  | 96.5  | 93.0  | 144.8 |
| 31500 | 76.8  | 83.6  | 87.6  | 87.8  | 88.3  | 91.4  | 90.7  | 91.3  | 94.9  | 94.6  | 96.8  | 93.3  | 88.5  | 144.8 |
| 40000 | 72.3  | 79.1  | 87.1  | 83.6  | 84.5  | 87.6  | 86.9  | 86.7  | 91.4  | 92.2  | 93.4  | 90.2  | 83.6  | 145.4 |
| 50000 | 66.0  | 73.5  | 84.4  | 77.3  | 78.4  | 82.5  | 81.4  | 81.2  | 86.0  | 86.3  | 88.2  | 85.4  | 78.5  | 144.6 |
| 63000 | 60.6  | 68.3  | 83.5  | 71.7  | 73.5  | 77.2  | 75.6  | 76.5  | 80.5  | 82.3  | 84.3  | 81.1  | 71.5  | 145.9 |
| 80000 | 53.7  | 61.8  | 80.8  | 64.8  | 67.4  | 71.0  | 69.2  | 69.4  | 74.5  | 75.8  | 78.6  | 75.4  | 63.8  | 147.7 |

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GASPL 107.7 111.2 110.7 111.3 111.2 113.2 114.6 116.4 122.0 125.5 130.6 127.7 126.0 164.9  
PNL 120.1 123.8 123.2 123.6 123.6 125.7 127.2 129.5 134.8 137.6 142.5 138.3 135.9  
PNLT 121.5 125.7 124.5 125.0 124.9 125.7 127.2 129.5 134.8 137.6 142.5 138.3 135.9  
DBA 107.8 111.1 110.5 110.9 110.6 112.5 114.0 116.2 122.0 125.2 130.4 126.8 124.7

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VERTCL = ADH406 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.80 PAMB HQ = 29.30 RELHUM = 69.7 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.6 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2376.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7613 TAPE = X7613C TEST PT NO = 7613 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-2ER-7613 X7613F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.1  | 85.7  | 82.4  | 83.2  | 82.8  | 85.7  | 85.8  | 86.7  | 88.7  | 87.2  | 95.1  | 95.6  | 95.2  | 131.1 |
| 63    | 87.8  | 92.3  | 88.1  | 89.9  | 89.9  | 93.6  | 93.7  | 91.9  | 95.1  | 95.1  | 102.8 | 103.0 | 101.4 | 138.2 |
| 80    | 88.8  | 93.6  | 88.6  | 90.1  | 89.5  | 91.8  | 93.0  | 91.6  | 93.8  | 92.9  | 96.5  | 97.7  | 99.4  | 135.4 |
| 100   | 87.2  | 93.7  | 89.3  | 91.5  | 91.9  | 93.3  | 94.4  | 95.0  | 95.8  | 97.1  | 98.5  | 101.9 | 103.6 | 138.0 |
| 125   | 83.9  | 88.2  | 89.7  | 91.7  | 91.8  | 93.4  | 93.8  | 92.7  | 95.4  | 98.0  | 104.6 | 105.6 | 107.0 | 140.5 |
| 160   | 83.4  | 85.0  | 87.5  | 87.8  | 87.1  | 90.2  | 92.4  | 91.0  | 95.0  | 98.6  | 104.9 | 106.9 | 109.8 | 141.5 |
| 200   | 86.8  | 87.8  | 86.6  | 89.6  | 90.0  | 92.6  | 94.0  | 94.4  | 99.8  | 101.4 | 107.5 | 110.0 | 111.1 | 144.0 |
| 250   | 85.8  | 89.8  | 89.6  | 90.1  | 90.2  | 92.3  | 95.2  | 97.1  | 100.3 | 106.1 | 111.5 | 113.5 | 113.4 | 147.2 |
| 315   | 87.3  | 90.6  | 89.1  | 90.4  | 92.0  | 94.6  | 96.3  | 97.2  | 103.1 | 108.5 | 114.6 | 114.5 | 114.9 | 149.1 |
| 400   | 88.6  | 90.3  | 90.6  | 91.7  | 92.0  | 94.4  | 96.7  | 97.9  | 105.1 | 112.2 | 117.1 | 116.5 | 114.4 | 151.1 |
| 500   | 88.8  | 92.9  | 91.6  | 93.2  | 93.8  | 96.1  | 97.5  | 99.9  | 106.9 | 114.5 | 118.3 | 116.8 | 114.9 | 152.2 |
| 630   | 90.8  | 94.1  | 93.6  | 94.4  | 94.2  | 97.3  | 99.7  | 100.9 | 107.3 | 116.4 | 119.3 | 117.7 | 116.1 | 153.4 |
| 800   | 95.1  | 94.4  | 95.6  | 95.9  | 95.8  | 98.1  | 100.0 | 102.2 | 109.4 | 115.7 | 120.3 | 118.3 | 116.9 | 154.0 |
| 1000  | 100.8 | 103.8 | 100.1 | 99.3  | 97.7  | 99.8  | 100.9 | 103.1 | 110.1 | 114.6 | 120.3 | 118.4 | 117.1 | 154.0 |
| 1250  | 98.2  | 101.9 | 103.0 | 103.6 | 102.6 | 103.0 | 102.3 | 104.0 | 110.7 | 113.8 | 120.7 | 118.1 | 115.9 | 154.1 |
| 1600  | 97.1  | 98.0  | 98.1  | 99.5  | 100.0 | 101.9 | 103.5 | 105.0 | 112.4 | 114.2 | 121.6 | 118.0 | 114.8 | 154.6 |
| 2000  | 98.5  | 101.8 | 99.5  | 99.1  | 98.5  | 100.8 | 103.3 | 105.1 | 111.7 | 114.0 | 121.0 | 115.1 | 111.9 | 153.7 |
| 2500  | 96.4  | 100.0 | 100.0 | 100.3 | 99.1  | 101.8 | 103.4 | 106.1 | 111.4 | 114.5 | 119.7 | 112.5 | 110.3 | 152.8 |
| 3150  | 96.8  | 100.8 | 99.9  | 99.4  | 99.7  | 101.5 | 103.2 | 105.9 | 111.2 | 113.5 | 117.0 | 111.7 | 107.7 | 151.3 |
| 4000  | 94.7  | 98.6  | 98.9  | 99.6  | 99.3  | 101.0 | 102.9 | 106.2 | 110.8 | 112.5 | 115.8 | 110.1 | 106.6 | 150.4 |
| 5000  | 93.0  | 96.9  | 97.6  | 99.0  | 99.2  | 101.2 | 102.8 | 105.2 | 110.2 | 111.8 | 114.6 | 108.4 | 105.1 | 149.6 |
| 6300  | 91.2  | 96.0  | 96.8  | 98.1  | 98.7  | 101.4 | 102.4 | 104.6 | 108.9 | 110.1 | 113.6 | 107.3 | 104.1 | 148.7 |
| 8000  | 90.3  | 95.6  | 96.1  | 97.1  | 98.0  | 100.8 | 102.2 | 103.6 | 108.3 | 109.0 | 111.7 | 105.4 | 102.5 | 147.9 |
| 10000 | 89.2  | 95.0  | 96.0  | 97.3  | 97.9  | 100.2 | 102.2 | 103.1 | 106.8 | 106.8 | 110.1 | 105.5 | 102.3 | 147.2 |
| 12500 | 87.7  | 93.4  | 95.5  | 96.7  | 97.7  | 99.7  | 100.5 | 101.5 | 105.6 | 105.1 | 108.5 | 103.2 | 100.7 | 146.6 |
| 16000 | 86.0  | 93.2  | 93.8  | 95.6  | 96.4  | 97.6  | 99.2  | 99.9  | 104.0 | 103.2 | 106.5 | 101.9 | 99.2  | 146.2 |
| 20000 | 83.2  | 89.7  | 92.3  | 93.8  | 93.8  | 96.8  | 97.2  | 97.1  | 101.7 | 100.2 | 104.4 | 99.0  | 95.4  | 145.7 |
| 25000 | 80.5  | 87.5  | 91.0  | 91.1  | 92.2  | 93.4  | 95.4  | 94.0  | 98.3  | 96.8  | 99.8  | 96.5  | 93.0  | 144.8 |
| 31500 | 76.8  | 83.6  | 87.6  | 87.8  | 88.3  | 91.4  | 90.7  | 91.3  | 94.9  | 94.6  | 96.8  | 93.3  | 88.5  | 144.8 |
| 40000 | 72.3  | 79.1  | 87.1  | 83.6  | 84.5  | 87.6  | 86.9  | 86.7  | 91.4  | 92.2  | 83.4  | 90.2  | 83.6  | 145.4 |
| 50000 | 66.0  | 73.5  | 84.4  | 77.3  | 78.4  | 82.5  | 81.4  | 81.2  | 86.0  | 86.3  | 88.2  | 85.4  | 78.5  | 144.6 |
| 63000 | 60.6  | 68.3  | 83.5  | 71.7  | 73.5  | 77.2  | 75.6  | 76.5  | 80.5  | 82.3  | 84.3  | 81.1  | 71.5  | 145.9 |
| 80000 | 53.7  | 61.8  | 80.8  | 64.8  | 67.4  | 71.0  | 69.2  | 69.4  | 74.5  | 75.8  | 78.6  | 75.4  | 63.8  | 147.7 |
| OASPL | 107.7 | 111.2 | 110.7 | 111.3 | 111.2 | 113.2 | 114.6 | 116.4 | 122.0 | 125.5 | 130.6 | 127.7 | 126.0 | 164.9 |
| PNL   | 120.1 | 123.8 | 123.2 | 123.6 | 123.6 | 125.7 | 127.2 | 129.5 | 134.8 | 137.6 | 142.5 | 138.3 | 135.9 |       |
| PNLT  | 121.5 | 125.7 | 124.5 | 125.0 | 124.9 | 125.7 | 127.2 | 129.5 | 134.8 | 137.6 | 142.5 | 138.3 | 135.9 |       |
| DBA   | 176.1 | 184.0 | 201.6 | 187.3 | 189.5 | 193.1 | 191.4 | 191.8 | 196.5 | 197.9 | 200.3 | 197.2 | 186.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH406 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.80 PAMB HG = 29.30 RELHUM = 69.7 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1512.6 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2376.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-2ER-7613 TAPE = X7613F TEST PT NO = 7613 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-2ER-7613 X76131

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                                        |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
|----------------------------------------------------------------------------------------------------------------------------------------|------------|------|----------------------|------|------------------------|-------|------------------|-------|-------------------|-------|-------------------|-------|-----------|-------|-----------------|
|                                                                                                                                        | 40.        | 50.  | 60.                  | 70.  | 80.                    | 90.   | 100.             | 110.  | 120.              | 130.  | 140.              | 150.  | 160.      |       |                 |
| FREQ                                                                                                                                   |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           | PWL   |                 |
| 50                                                                                                                                     | 67.3       | 70.6 | 71.9                 | 73.7 | 74.4                   | 76.9  | 79.2             | 79.9  | 86.4              | 92.4  | 95.8              | 93.0  | 87.6      | 169.2 |                 |
| 63                                                                                                                                     | 67.5       | 73.1 | 72.9                 | 75.2 | 76.2                   | 78.7  | 79.9             | 81.9  | 88.2              | 94.7  | 87.0              | 93.2  | 88.0      | 170.4 |                 |
| 80                                                                                                                                     | 69.4       | 74.2 | 74.8                 | 76.3 | 76.6                   | 79.8  | 82.1             | 82.8  | 88.6              | 96.6  | 87.9              | 94.1  | 89.1      | 171.6 |                 |
| 100                                                                                                                                    | 73.6       | 74.5 | 76.8                 | 77.8 | 78.1                   | 80.6  | 82.3             | 84.1  | 90.6              | 95.8  | 88.9              | 94.6  | 89.8      | 172.2 |                 |
| 125                                                                                                                                    | 79.2       | 83.8 | 81.2                 | 81.2 | 79.9                   | 82.2  | 83.2             | 84.9  | 91.2              | 94.6  | 88.7              | 94.6  | 89.7      | 172.2 |                 |
| 160                                                                                                                                    | 76.4       | 81.8 | 83.9                 | 85.3 | 84.7                   | 85.2  | 84.5             | 85.7  | 91.7              | 93.6  | 88.9              | 94.0  | 88.1      | 172.2 |                 |
| 200                                                                                                                                    | 75.1       | 77.6 | 78.9                 | 81.1 | 82.0                   | 84.0  | 85.4             | 86.6  | 93.2              | 93.9  | 89.6              | 93.6  | 86.5      | 172.7 |                 |
| 250                                                                                                                                    | 76.2       | 81.2 | 80.0                 | 80.4 | 80.2                   | 82.7  | 85.1             | 86.4  | 92.3              | 93.4  | 88.7              | 90.2  | 83.0      | 171.8 |                 |
| 315                                                                                                                                    | 73.6       | 79.0 | 80.3                 | 81.3 | 80.7                   | 83.4  | 85.0             | 87.1  | 91.7              | 93.5  | 87.0              | 87.1  | 80.6      | 170.9 |                 |
| 400                                                                                                                                    | 73.5       | 79.5 | 79.8                 | 80.1 | 80.9                   | 82.9  | 84.4             | 86.6  | 91.1              | 92.2  | 83.8              | 85.6  | 77.0      | 169.4 |                 |
| 500                                                                                                                                    | 71.0       | 76.8 | 78.5                 | 80.0 | 80.2                   | 82.1  | 83.8             | 86.6  | 90.4              | 90.8  | 82.0              | 83.3  | 74.9      | 168.5 |                 |
| 630                                                                                                                                    | 68.8       | 74.8 | 76.8                 | 79.1 | 79.9                   | 82.0  | 83.5             | 85.3  | 89.4              | 89.6  | 80.4              | 81.0  | 72.4      | 167.7 |                 |
| 800                                                                                                                                    | 66.5       | 73.4 | 75.7                 | 78.0 | 79.1                   | 82.0  | 82.9             | 84.5  | 87.8              | 87.5  | 88.8              | 79.2  | 70.2      | 166.9 |                 |
| 1000                                                                                                                                   | 65.1       | 72.7 | 74.9                 | 76.8 | 78.3                   | 81.3  | 82.5             | 83.3  | 87.1              | 86.1  | 86.5              | 76.6  | 67.5      | 166.0 |                 |
| 1250                                                                                                                                   | 63.5       | 71.8 | 74.5                 | 76.8 | 78.1                   | 80.5  | 82.3             | 82.7  | 85.3              | 83.6  | 84.5              | 76.0  | 65.8      | 165.4 |                 |
| 1600                                                                                                                                   | 61.2       | 69.7 | 73.5                 | 75.9 | 77.6                   | 79.7  | 80.4             | 80.7  | 83.6              | 81.4  | 81.9              | 72.3  | 61.9      | 164.7 |                 |
| 2000                                                                                                                                   | 58.5       | 68.8 | 71.5                 | 74.6 | 76.1                   | 77.6  | 78.9             | 78.8  | 81.7              | 78.8  | 79.0              | 69.4  | 57.3      | 164.4 |                 |
| 2500                                                                                                                                   | 53.9       | 64.1 | 69.1                 | 72.1 | 72.9                   | 76.2  | 76.3             | 75.4  | 78.5              | 74.6  | 75.1              | 63.6  | 48.6      | 163.8 |                 |
| 3150                                                                                                                                   | 47.8       | 59.5 | 66.0                 | 67.9 | 70.0                   | 72.4  | 73.2             | 70.8  | 73.2              | 68.8  | 67.1              | 56.1  | 37.8      | 163.0 |                 |
| 4000                                                                                                                                   | 37.9       | 50.8 | 58.7                 | 61.3 | 63.1                   | 66.6  | 65.5             | 64.7  | 66.0              | 61.9  | 57.9              | 44.0  | 18.9      | 162.9 |                 |
| 5000                                                                                                                                   | 23.6       | 38.8 | 52.0                 | 51.7 | 54.3                   | 57.9  | 56.7             | 54.8  | 56.3              | 51.8  | 44.8              | 27.2  |           | 163.6 |                 |
| 6300                                                                                                                                   |            | 19.0 | 37.2                 | 34.5 | 38.1                   | 42.9  | 41.1             | 38.5  | 38.8              | 31.8  | 21.8              |       |           | 162.8 |                 |
| 8000                                                                                                                                   |            |      | 15.0                 | 9.7  | 15.0                   | 19.9  | 17.1             | 14.5  | 11.9              | 2.9   |                   |       |           | 164.0 |                 |
| 10000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           | 165.8 |                 |
| 12500                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 16000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 20000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 25000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 31500                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 40000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 50000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 63000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| 80000                                                                                                                                  |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| OASPL                                                                                                                                  | 85.1       | 89.9 | 90.6                 | 91.9 | 92.1                   | 94.2  | 95.5             | 97.0  | 102.1             | 104.8 | 108.2             | 102.9 | 97.4      | 162.7 |                 |
| PNL                                                                                                                                    | 88.2       | 94.4 | 96.1                 | 98.1 | 99.1                   | 101.4 | 102.4            | 103.0 | 107.4             | 108.2 | 111.1             | 104.2 | 96.9      |       |                 |
| PNLT                                                                                                                                   | 88.9       | 95.3 | 96.7                 | 98.8 | 99.7                   | 101.4 | 102.4            | 103.0 | 107.9             | 109.4 | 112.2             | 104.2 | 96.9      |       |                 |
| DBA                                                                                                                                    | 76.9       | 83.1 | 85.0                 | 86.9 | 87.8                   | 90.1  | 91.4             | 92.6  | 96.4              | 96.5  | 98.8              | 90.8  | 83.6      |       |                 |
| MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN)      SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN)      DIAMETER RATIO = 8.071      FREQ SHIFT = -9 |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                                                            |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |
| VEHICL                                                                                                                                 | = ADH406   |      | TEST DATE = 11-29-82 |      | LOCAT                  |       | = C41 ANECH CH   |       | CONFIG            |       | = 6               |       | MODEL = 6 |       | FLTVEL = 0. FPS |
| IAPLHA                                                                                                                                 | = SB59     |      | IEGA = NO            |      | PWL AREA = FULL SPHERE |       | TAMB F = 46.80   |       | PAMB HG = 29.30   |       | RELHUM = 69.7 PCT |       |           |       |                 |
| WIND DIR                                                                                                                               | = DEG      |      | WIND VEL = MPH       |      | EXT DIST = 2400.0 FT   |       | EXT CONFIG = SL  |       | MIKE HT =         |       | NBFR =            |       |           |       |                 |
| FNIN1                                                                                                                                  | = LBS XNL  |      | = RPM                |      | XNH = RPM              |       | V8 = 1512.6 FPS  |       | AE8 = 3.4 SQ IN   |       |                   |       |           |       |                 |
| FNRAMB                                                                                                                                 | = LBS XNLR |      | = RPM                |      | XNHR = RPM             |       | V13 = 2376.9 FPS |       | AE18 = 18.0 SQ IN |       |                   |       |           |       |                 |
| RUNPT = 82F-2ER-7613      TAPE = X76131      TEST PT NO = 7613      NC = AE074      CORR FAN SPEED = RPM                               |            |      |                      |      |                        |       |                  |       |                   |       |                   |       |           |       |                 |

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503

P1185-05

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7614 X7614C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.6 | 85.7 | 80.9 | 82.5 | 82.3 | 81.9 | 83.1 | 84.0  | 88.2  | 87.0  | 91.1  | 92.6  | 98.0  | 130.1 |
| 63    | 90.3 | 89.8 | 85.3 | 86.6 | 89.7 | 88.6 | 91.7 | 87.1  | 94.1  | 93.6  | 94.8  | 94.5  | 97.1  | 133.6 |
| 80    | 88.5 | 92.3 | 87.1 | 89.4 | 88.0 | 91.1 | 91.7 | 89.9  | 92.8  | 92.9  | 94.3  | 96.5  | 99.4  | 134.3 |
| 100   | 86.5 | 91.5 | 86.8 | 88.8 | 89.6 | 90.8 | 91.4 | 92.3  | 93.8  | 94.3  | 96.5  | 100.1 | 103.3 | 136.2 |
| 125   | 84.9 | 86.7 | 87.9 | 90.5 | 90.1 | 91.4 | 91.6 | 90.7  | 92.7  | 95.0  | 101.4 | 103.6 | 106.0 | 138.5 |
| 160   | 82.9 | 81.7 | 85.0 | 85.8 | 85.6 | 87.0 | 89.1 | 87.0  | 91.7  | 95.3  | 102.2 | 104.6 | 108.0 | 139.3 |
| 200   | 84.5 | 84.3 | 82.1 | 84.9 | 86.0 | 88.1 | 90.0 | 90.6  | 95.3  | 97.1  | 102.5 | 106.7 | 108.6 | 140.4 |
| 250   | 82.0 | 84.8 | 84.8 | 86.1 | 87.0 | 88.6 | 90.7 | 92.4  | 96.1  | 101.7 | 107.8 | 110.0 | 110.1 | 143.5 |
| 315   | 84.1 | 86.4 | 84.6 | 86.7 | 87.8 | 90.4 | 91.8 | 92.9  | 98.6  | 104.0 | 109.8 | 111.5 | 110.4 | 145.0 |
| 400   | 84.3 | 85.1 | 85.9 | 87.2 | 87.8 | 90.1 | 92.3 | 93.7  | 99.9  | 107.4 | 112.8 | 113.3 | 108.7 | 146.9 |
| 500   | 85.3 | 87.4 | 86.9 | 88.7 | 89.3 | 92.4 | 93.0 | 94.9  | 101.4 | 110.2 | 114.6 | 112.5 | 104.9 | 147.8 |
| 630   | 85.8 | 87.6 | 88.3 | 90.1 | 90.0 | 93.1 | 95.0 | 96.9  | 102.8 | 111.9 | 116.3 | 112.2 | 101.9 | 149.1 |
| 800   | 87.6 | 87.9 | 88.9 | 90.4 | 91.3 | 93.9 | 95.8 | 98.2  | 105.1 | 112.5 | 116.6 | 110.3 | 99.7  | 149.2 |
| 1000  | 90.8 | 90.8 | 91.1 | 92.1 | 92.4 | 95.1 | 96.4 | 99.1  | 105.6 | 111.9 | 115.8 | 107.9 | 97.9  | 148.5 |
| 1250  | 89.4 | 93.7 | 92.5 | 93.1 | 93.4 | 96.0 | 97.4 | 100.0 | 107.0 | 110.5 | 114.4 | 105.1 | 96.6  | 147.5 |
| 1600  | 89.3 | 91.0 | 91.4 | 93.0 | 93.5 | 96.9 | 99.0 | 101.8 | 108.1 | 110.5 | 114.1 | 104.3 | 96.0  | 147.5 |
| 2000  | 90.0 | 91.3 | 91.0 | 93.1 | 93.2 | 96.6 | 98.8 | 101.9 | 107.2 | 110.5 | 112.5 | 103.1 | 96.4  | 146.7 |
| 2500  | 92.4 | 92.9 | 92.3 | 93.2 | 92.9 | 97.0 | 98.7 | 102.3 | 106.9 | 110.7 | 111.5 | 103.0 | 96.3  | 146.4 |
| 3150  | 92.7 | 94.3 | 94.3 | 94.3 | 93.9 | 97.5 | 99.4 | 101.6 | 107.4 | 110.0 | 111.5 | 102.7 | 96.2  | 146.4 |
| 4000  | 92.7 | 94.0 | 94.5 | 95.0 | 94.7 | 97.7 | 99.1 | 102.1 | 107.0 | 109.0 | 111.2 | 103.3 | 96.3  | 146.1 |
| 5000  | 91.2 | 93.1 | 93.7 | 95.4 | 94.9 | 97.8 | 99.2 | 102.1 | 107.0 | 109.2 | 109.5 | 102.0 | 95.5  | 145.7 |
| 6300  | 91.3 | 92.3 | 93.1 | 94.7 | 95.5 | 98.8 | 99.5 | 101.2 | 106.2 | 108.1 | 108.2 | 101.2 | 94.7  | 145.0 |
| 8000  | 91.5 | 93.6 | 93.6 | 94.1 | 94.8 | 97.6 | 99.0 | 100.4 | 105.3 | 106.7 | 106.4 | 98.9  | 93.3  | 144.2 |
| 10000 | 93.1 | 93.9 | 93.9 | 94.7 | 95.9 | 97.4 | 99.9 | 100.1 | 104.0 | 105.1 | 105.0 | 98.2  | 93.0  | 143.9 |
| 12500 | 92.5 | 94.2 | 94.8 | 94.5 | 94.6 | 97.1 | 98.4 | 98.8  | 103.2 | 102.4 | 103.6 | 97.3  | 92.1  | 143.4 |
| 16000 | 90.4 | 93.2 | 93.7 | 95.0 | 94.8 | 95.5 | 97.3 | 97.7  | 101.8 | 100.5 | 100.8 | 96.1  | 91.3  | 143.3 |
| 20000 | 87.2 | 89.7 | 91.4 | 93.3 | 93.1 | 95.1 | 96.0 | 95.3  | 99.3  | 97.7  | 97.9  | 94.5  | 88.2  | 142.8 |
| 25000 | 83.7 | 87.0 | 88.8 | 89.8 | 90.2 | 93.0 | 94.2 | 93.5  | 96.6  | 94.1  | 94.8  | 91.7  | 87.4  | 142.6 |
| 31500 | 80.0 | 83.3 | 84.3 | 86.1 | 87.1 | 89.7 | 90.7 | 90.6  | 94.3  | 92.2  | 91.4  | 88.8  | 83.3  | 142.8 |
| 40000 | 75.6 | 79.1 | 81.9 | 82.7 | 83.7 | 87.5 | 86.9 | 86.8  | 90.7  | 89.0  | 87.1  | 85.1  | 78.5  | 143.3 |
| 50000 | 69.3 | 73.2 | 79.1 | 76.9 | 78.2 | 81.7 | 81.4 | 81.4  | 86.0  | 82.8  | 82.3  | 80.1  | 72.8  | 142.4 |
| 63000 | 63.9 | 68.2 | 78.3 | 71.8 | 74.0 | 77.7 | 75.9 | 76.8  | 80.5  | 78.2  | 77.6  | 75.5  | 66.3  | 143.2 |
| 80000 | 56.9 | 61.1 | 77.4 | 64.6 | 67.2 | 71.0 | 69.2 | 70.0  | 73.6  | 73.4  | 71.5  | 68.8  | 58.2  | 144.9 |

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OASPL 104.0 105.6 105.5 106.6 106.8 109.5 111.0 112.9 118.2 122.1 125.3 121.1 117.8 160.1  
PNL 116.4 117.9 118.0 118.9 118.9 121.8 123.4 125.7 131.0 134.2 136.5 130.3 125.5  
PNLT 116.4 117.9 118.0 119.4 118.9 121.8 123.4 125.7 131.0 134.2 136.5 130.3 125.5  
DBA 102.5 104.0 104.1 105.1 105.3 108.3 110.0 112.5 118.1 121.8 124.6 118.3 111.9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VERTCL = ADH419 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.45 RELHUM = 62.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINT = LBS XNL = RPM XNH = RPM V8 = 1529.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2361.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7614 TAPE = X7614C TEST PT NO = 7614 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-7614 X7614F

ANGLES MEASURED FROM INLET, DEGREES

|                                                                                                                                 |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
|---------------------------------------------------------------------------------------------------------------------------------|----------|-------|-----------|------------|-------|----------|----------------|-------|------------|--------------|-------|---------|--------------|-------|
|                                                                                                                                 | 40.      | 50.   | 60.       | 70.        | 80.   | 90.      | 100.           | 110.  | 120.       | 130.         | 140.  | 150.    | 160.         | PWL   |
| FREQ                                                                                                                            |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 50                                                                                                                              |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 63                                                                                                                              |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 80                                                                                                                              |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 100                                                                                                                             |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 125                                                                                                                             |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 160                                                                                                                             |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 200                                                                                                                             |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| 250                                                                                                                             | 89.5     | 91.0  | 89.6      | 89.3       | 88.5  | 88.6     | 88.8           | 88.8  | 95.2       | 99.6         | 105.0 | 107.1   | 107.8        | 141.1 |
| 315                                                                                                                             | 89.5     | 91.0  | 89.6      | 89.3       | 89.5  | 90.6     | 90.4           | 90.1  | 97.7       | 104.6        | 109.6 | 110.9   | 108.8        | 144.5 |
| 400                                                                                                                             | 91.4     | 92.5  | 89.4      | 90.0       | 89.6  | 90.4     | 91.5           | 91.8  | 99.3       | 107.7        | 112.2 | 111.7   | 107.8        | 146.1 |
| 500                                                                                                                             | 91.9     | 91.4  | 90.8      | 90.6       | 91.2  | 92.7     | 92.1           | 92.8  | 100.7      | 109.3        | 113.9 | 112.0   | 106.6        | 147.3 |
| 630                                                                                                                             | 93.0     | 93.8  | 91.9      | 92.2       | 91.9  | 93.5     | 94.0           | 94.6  | 103.3      | 110.2        | 114.8 | 111.3   | 107.0        | 147.9 |
| 800                                                                                                                             | 93.5     | 94.0  | 93.4      | 93.6       | 93.3  | 94.4     | 94.8           | 95.9  | 104.2      | 110.2        | 114.7 | 110.3   | 107.8        | 147.9 |
| 1000                                                                                                                            | 95.3     | 94.3  | 94.0      | 94.0       | 94.4  | 95.7     | 95.6           | 97.0  | 105.7      | 109.0        | 113.4 | 107.4   | 106.5        | 146.7 |
| 1250                                                                                                                            | 97.3     | 96.5  | 95.6      | 95.4       | 95.5  | 96.8     | 96.7           | 98.0  | 107.1      | 109.0        | 113.2 | 106.7   | 105.9        | 146.9 |
| 1600                                                                                                                            | 96.2     | 99.6  | 97.3      | 96.6       | 96.0  | 97.9     | 98.5           | 100.0 | 106.5      | 109.5        | 112.1 | 106.1   | 106.9        | 146.7 |
| 2000                                                                                                                            | 97.0     | 97.5  | 96.6      | 96.9       | 95.9  | 97.8     | 98.6           | 100.4 | 106.6      | 110.2        | 111.5 | 106.6   | 107.4        | 146.8 |
| 2500                                                                                                                            | 97.7     | 97.9  | 96.3      | 97.1       | 95.7  | 98.6     | 98.9           | 101.2 | 107.7      | 110.0        | 112.2 | 106.8   | 108.0        | 147.2 |
| 3150                                                                                                                            | 99.3     | 99.1  | 97.4      | 97.2       | 97.1  | 99.5     | 100.0          | 101.0 | 108.0      | 109.6        | 112.5 | 107.9   | 108.4        | 147.6 |
| 4000                                                                                                                            | 99.8     | 100.6 | 99.7      | 98.6       | 98.4  | 100.2    | 100.3          | 102.2 | 108.0      | 109.8        | 110.7 | 106.6   | 107.6        | 147.3 |
| 5000                                                                                                                            | 100.2    | 100.7 | 100.6     | 99.7       | 98.9  | 100.8    | 100.7          | 102.2 | 107.3      | 108.9        | 109.5 | 105.9   | 106.9        | 146.9 |
| 6300                                                                                                                            | 98.6     | 99.8  | 99.5      | 100.2      | 99.6  | 101.8    | 101.0          | 101.4 | 106.5      | 107.5        | 107.8 | 103.7   | 105.6        | 146.1 |
| 8000                                                                                                                            | 98.6     | 98.9  | 98.8      | 99.4       | 98.8  | 100.6    | 100.5          | 100.5 | 105.7      | 106.5        | 107.1 | 103.7   | 106.0        | 145.8 |
| 10000                                                                                                                           | 98.7     | 100.0 | 99.1      | 98.6       | 99.9  | 100.4    | 101.6          | 100.5 | 105.6      | 104.6        | 106.4 | 103.6   | 105.7        | 146.1 |
| 12500                                                                                                                           | 100.0    | 100.0 | 99.1      | 99.0       | 98.6  | 100.1    | 100.4          | 99.6  | 105.5      | 104.0        | 105.0 | 103.5   | 105.9        | 146.4 |
| 16000                                                                                                                           | 98.9     | 99.8  | 99.5      | 98.2       | 98.8  | 98.5     | 99.7           | 99.1  | 103.5      | 101.8        | 102.6 | 102.5   | 103.3        | 146.4 |
| 20000                                                                                                                           | 96.3     | 98.4  | 98.0      | 98.3       | 97.1  | 98.1     | 98.3           | 96.8  | 101.2      | 98.1         | 98.9  | 98.6    | 101.1        | 146.1 |
| 25000                                                                                                                           | 92.5     | 94.3  | 95.1      | 96.1       | 94.2  | 96.0     | 96.3           | 94.8  | 100.2      | 97.9         | 97.7  | 98.2    | 99.7         | 146.6 |
| 31500                                                                                                                           | 88.3     | 90.8  | 91.7      | 91.8       | 91.7  | 92.7     | 93.1           | 92.3  | 97.2       | 95.5         | 94.2  | 95.5    | 96.1         | 146.7 |
| 40000                                                                                                                           | 86.5     | 88.5  | 88.1      | 88.4       | 88.3  | 90.5     | 89.3           | 88.4  | 92.8       | 89.4         | 89.6  | 90.7    | 90.7         | 146.6 |
| 50000                                                                                                                           | 81.7     | 84.0  | 85.3      | 84.5       | 82.7  | 84.7     | 83.7           | 82.8  | 87.9       | 85.4         | 85.4  | 86.8    | 85.1         | 146.3 |
| 63000                                                                                                                           | 74.4     | 77.1  | 81.6      | 77.8       | 78.6  | 80.7     | 78.2           | 78.0  | 81.9       | 81.3         | 80.0  | 80.7    | 77.9         | 146.4 |
| 80000                                                                                                                           | 67.0     | 70.3  | 79.0      | 71.1       | 71.2  | 74.0     | 71.4           | 70.8  | 72.1       | 71.5         | 70.2  | 70.9    | 68.1         | 146.4 |
| 0ASPL                                                                                                                           | 110.3    | 111.1 | 110.3     | 110.2      | 109.9 | 111.4    | 111.7          | 112.2 | 118.5      | 121.1        | 124.2 | 120.9   | 119.9        | 160.7 |
| PNL                                                                                                                             | 122.2    | 122.9 | 121.9     | 121.5      | 121.1 | 122.9    | 123.1          | 124.4 | 130.6      | 133.1        | 135.7 | 131.7   | 131.7        |       |
| PNLT                                                                                                                            | 122.2    | 122.9 | 121.9     | 121.5      | 121.1 | 122.9    | 123.1          | 124.4 | 130.6      | 133.1        | 135.7 | 131.7   | 131.7        |       |
| DBA                                                                                                                             | 189.9    | 192.9 | 199.9     | 193.5      | 193.6 | 196.1    | 193.8          | 193.2 | 196.0      | 195.1        | 194.0 | 194.9   | 192.4        |       |
| MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000      FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00      REFR CORR YES, TURB CORR YES |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166                                                                     |          |       |           |            |       |          |                |       |            |              |       |         |              |       |
| VEHICL                                                                                                                          | = ADH419 |       | TEST DATE | = 11-30-82 |       | LOCAT    | = C41 ANECH CH |       | CONFIG     | = 6          |       | MODEL   | = 6          |       |
| IAPLHA                                                                                                                          | = SB59   |       | IEGA      | = NO       |       | PWL AREA | = FULL SPHERE  |       | TAMB F     | = 62.10      |       | PAMB HG | = 29.45      |       |
| WIND DIR                                                                                                                        | =        |       | WIND VEL  | =          |       | EXT DIST | = 40.0 FT      |       | EXT CONFIG | = ARC        |       | MIKE HT | =            |       |
| FNINI                                                                                                                           | =        |       | LBS       | =          |       | RPM      | =              |       | V8         | = 1529.1 FPS |       | AE8     | = 3.4 SQ IN  |       |
| FNRAMB                                                                                                                          | =        |       | LBS       | =          |       | RPM      | =              |       | V18        | = 2361.7 FPS |       | AC18    | = 18.0 SQ IN |       |
| RUNPT = 82F-400-7614    TAPE = X7614F    TEST PT NO = 7614    NC = AE075    CORR FAN SPEED =    RPM                             |          |       |           |            |       |          |                |       |            |              |       |         |              |       |

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P111-00

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-7614 X76141

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.  | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 50    | 70.1 | 72.8 | 70.7 | 72.0  | 72.0 | 72.9  | 73.9  | 73.8  | 80.6  | 87.9  | 90.9  | 88.2 | 80.9 | 164.3 |
| 63    | 70.5 | 71.6 | 72.1 | 72.6  | 73.6 | 75.3  | 74.5  | 74.8  | 82.0  | 89.5  | 92.6  | 88.5 | 79.7 | 165.4 |
| 80    | 71.6 | 74.0 | 73.1 | 74.1  | 74.3 | 76.0  | 76.3  | 76.6  | 84.6  | 90.4  | 93.4  | 87.6 | 80.0 | 166.0 |
| 100   | 72.0 | 74.1 | 74.6 | 75.6  | 75.7 | 76.9  | 77.2  | 77.8  | 85.4  | 90.3  | 93.3  | 86.6 | 80.6 | 166.0 |
| 125   | 73.7 | 74.3 | 75.1 | 75.8  | 76.7 | 78.1  | 77.9  | 78.8  | 86.8  | 89.0  | 91.8  | 83.6 | 79.1 | 164.9 |
| 160   | 75.5 | 76.3 | 76.6 | 77.1  | 77.7 | 79.0  | 78.8  | 79.7  | 88.0  | 88.9  | 91.4  | 82.6 | 78.2 | 165.0 |
| 200   | 74.2 | 79.3 | 78.1 | 78.2  | 78.0 | 80.0  | 80.5  | 81.5  | 87.3  | 89.2  | 90.1  | 81.7 | 78.7 | 164.8 |
| 250   | 74.6 | 76.9 | 77.2 | 78.2  | 77.6 | 79.8  | 80.4  | 81.7  | 87.2  | 89.5  | 89.2  | 81.7 | 78.5 | 164.9 |
| 315   | 74.9 | 76.9 | 76.6 | 78.2  | 77.2 | 80.3  | 80.4  | 82.3  | 87.9  | 89.1  | 89.4  | 81.4 | 78.3 | 165.4 |
| 400   | 76.1 | 77.7 | 77.3 | 78.0  | 78.3 | 80.9  | 81.2  | 81.7  | 87.9  | 88.3  | 89.2  | 81.9 | 77.8 | 165.7 |
| 500   | 76.1 | 78.9 | 79.2 | 79.0  | 79.3 | 81.3  | 81.2  | 82.6  | 87.6  | 88.0  | 86.9  | 79.9 | 75.9 | 165.4 |
| 630   | 76.0 | 78.5 | 79.8 | 79.8  | 79.6 | 81.7  | 81.4  | 82.3  | 86.6  | 86.7  | 85.3  | 78.5 | 74.2 | 165.0 |
| 800   | 73.9 | 77.2 | 78.5 | 80.1  | 80.0 | 82.3  | 81.5  | 81.3  | 85.5  | 85.0  | 83.1  | 75.6 | 71.7 | 164.3 |
| 1000  | 73.4 | 76.0 | 77.5 | 79.1  | 79.1 | 81.0  | 80.8  | 80.2  | 84.4  | 83.7  | 81.9  | 75.0 | 71.0 | 164.0 |
| 1250  | 73.0 | 76.8 | 77.6 | 78.2  | 80.0 | 80.7  | 81.8  | 80.0  | 84.1  | 81.4  | 80.8  | 74.0 | 69.3 | 164.2 |
| 1600  | 73.4 | 76.2 | 77.2 | 78.2  | 78.5 | 80.1  | 80.3  | 78.8  | 83.6  | 80.2  | 78.4  | 72.6 | 67.1 | 164.6 |
| 2000  | 71.4 | 75.5 | 77.2 | 77.2  | 78.5 | 78.4  | 79.4  | 78.1  | 81.1  | 77.4  | 75.1  | 70.0 | 61.5 | 164.5 |
| 2500  | 67.0 | 72.8 | 74.8 | 76.6  | 76.3 | 77.5  | 77.5  | 75.1  | 77.9  | 72.5  | 69.6  | 63.3 | 54.4 | 164.2 |
| 3150  | 59.9 | 66.3 | 70.0 | 72.8  | 72.0 | 74.1  | 74.0  | 71.5  | 75.1  | 69.9  | 65.0  | 57.8 | 44.5 | 164.8 |
| 4000  | 49.4 | 58.1 | 62.8 | 65.3  | 66.5 | 67.9  | 67.9  | 65.8  | 68.3  | 62.7  | 55.3  | 46.2 | 26.5 | 164.8 |
| 5000  | 37.9 | 48.2 | 52.9 | 56.4  | 58.1 | 60.9  | 59.1  | 56.4  | 57.6  | 49.1  | 40.9  | 27.7 |      | 164.8 |
| 6300  | 15.3 | 29.4 | 38.0 | 41.8  | 42.4 | 45.1  | 43.4  | 40.1  | 40.6  | 30.9  | 19.0  |      |      | 164.4 |
| 8000  |      |      | 13.0 | 15.8  | 20.1 | 23.4  | 19.8  | 16.0  | 13.3  | 1.9   |       |      |      | 164.5 |
| 10000 |      |      |      |       |      |       |       |       |       |       |       |      |      | 164.5 |
| 12500 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 16000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 20000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 25000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 31500 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 40000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 50000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 63000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| 80000 |      |      |      |       |      |       |       |       |       |       |       |      |      |       |
| GASPL | 86.3 | 89.0 | 89.5 | 90.2  | 90.5 | 92.2  | 92.3  | 92.6  | 98.2  | 100.2 | 101.8 | 95.7 | 89.8 | 178.7 |
| PNL   | 93.3 | 97.0 | 98.3 | 99.5  | 99.7 | 101.2 | 101.2 | 100.5 | 105.0 | 104.6 | 104.8 | 97.7 | 92.5 |       |
| PNLT  | 94.6 | 97.0 | 98.9 | 100.2 | 99.7 | 101.2 | 101.2 | 100.5 | 105.6 | 105.2 | 104.8 | 97.7 | 92.5 |       |
| DBA   | 82.9 | 86.0 | 87.1 | 88.1  | 88.4 | 90.0  | 90.1  | 89.6  | 94.0  | 93.4  | 92.7  | 85.6 | 81.4 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH419 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.45 RELHUM = 62.8 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1529.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2361.7 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7614 TAPE = X76141 TEST PT NO = 7614 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7619 X7619C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.4  | 85.4  | 82.7  | 83.2  | 83.3  | 85.7  | 87.3  | 86.5  | 88.7  | 95.7  | 95.4  | 95.8  | 95.7  | 132.4 |
| 63    | 88.8  | 91.8  | 89.1  | 88.9  | 91.2  | 94.3  | 97.2  | 91.4  | 95.8  | 104.1 | 103.3 | 103.0 | 101.9 | 140.1 |
| 80    | 89.5  | 94.6  | 89.6  | 91.4  | 90.7  | 93.3  | 93.7  | 92.6  | 95.1  | 94.2  | 97.5  | 99.2  | 100.4 | 136.5 |
| 100   | 88.2  | 95.0  | 91.0  | 92.8  | 93.1  | 94.8  | 95.1  | 96.3  | 97.3  | 98.1  | 99.7  | 103.4 | 104.6 | 139.3 |
| 125   | 84.4  | 88.2  | 90.7  | 92.5  | 92.8  | 93.9  | 94.3  | 93.5  | 95.9  | 98.8  | 105.9 | 107.1 | 108.0 | 141.7 |
| 150   | 94.2  | 85.7  | 88.7  | 88.8  | 88.1  | 91.2  | 93.1  | 92.5  | 96.5  | 99.8  | 106.4 | 108.4 | 111.0 | 142.9 |
| 200   | 87.8  | 88.1  | 88.1  | 90.4  | 91.5  | 93.8  | 94.7  | 95.6  | 100.8 | 102.6 | 108.5 | 111.5 | 112.9 | 145.3 |
| 250   | 86.5  | 90.6  | 91.1  | 91.9  | 91.7  | 93.6  | 96.0  | 98.1  | 101.1 | 107.1 | 112.8 | 115.0 | 114.6 | 148.4 |
| 315   | 87.3  | 90.6  | 89.9  | 91.9  | 93.3  | 95.6  | 96.5  | 98.2  | 103.9 | 109.5 | 115.1 | 115.8 | 115.4 | 149.9 |
| 400   | 89.3  | 91.6  | 91.9  | 92.9  | 93.2  | 95.6  | 97.7  | 98.9  | 105.9 | 113.2 | 117.6 | 116.8 | 115.2 | 151.7 |
| 500   | 90.1  | 94.1  | 92.9  | 94.2  | 94.5  | 97.1  | 98.5  | 100.4 | 107.4 | 115.2 | 119.1 | 117.3 | 114.9 | 152.9 |
| 630   | 92.0  | 95.1  | 94.3  | 95.6  | 95.5  | 98.1  | 100.5 | 102.1 | 108.6 | 117.4 | 120.8 | 118.2 | 116.4 | 154.5 |
| 800   | 95.6  | 96.1  | 96.4  | 97.4  | 96.8  | 99.1  | 101.3 | 103.4 | 110.6 | 117.7 | 122.1 | 119.0 | 116.9 | 155.4 |
| 1000  | 101.3 | 104.3 | 101.6 | 101.1 | 99.2  | 100.8 | 101.9 | 103.8 | 111.3 | 117.4 | 122.3 | 118.9 | 117.1 | 155.6 |
| 1250  | 98.9  | 103.2 | 103.7 | 105.4 | 104.1 | 104.0 | 103.6 | 105.5 | 112.2 | 116.0 | 122.7 | 118.3 | 114.4 | 155.5 |
| 1600  | 97.6  | 99.5  | 99.9  | 100.3 | 101.3 | 103.1 | 105.0 | 106.5 | 113.4 | 116.0 | 123.6 | 117.0 | 113.5 | 155.9 |
| 2000  | 99.8  | 103.3 | 100.7 | 100.9 | 100.0 | 101.8 | 104.1 | 106.9 | 112.7 | 116.8 | 122.3 | 114.9 | 111.4 | 154.9 |
| 2500  | 98.7  | 103.0 | 102.8 | 101.8 | 100.4 | 102.5 | 104.7 | 107.3 | 112.9 | 116.7 | 120.2 | 113.5 | 110.1 | 153.9 |
| 3150  | 98.3  | 102.3 | 101.9 | 102.1 | 101.2 | 103.0 | 105.2 | 107.1 | 112.7 | 116.3 | 118.3 | 112.2 | 108.0 | 152.9 |
| 4000  | 96.2  | 100.1 | 100.9 | 101.3 | 101.5 | 103.0 | 104.1 | 107.4 | 112.1 | 114.5 | 117.5 | 110.8 | 106.8 | 152.0 |
| 5000  | 94.0  | 98.9  | 99.6  | 100.7 | 100.7 | 103.2 | 104.3 | 106.2 | 111.9 | 114.0 | 116.1 | 109.4 | 105.6 | 151.3 |
| 6300  | 93.2  | 97.5  | 98.6  | 100.4 | 100.5 | 103.2 | 104.5 | 106.1 | 110.9 | 112.1 | 114.3 | 108.6 | 104.1 | 150.2 |
| 8000  | 91.8  | 97.3  | 97.7  | 98.6  | 99.8  | 102.3 | 103.8 | 105.6 | 109.9 | 111.0 | 112.4 | 106.9 | 103.3 | 149.3 |
| 10000 | 90.9  | 95.7  | 97.5  | 99.1  | 99.9  | 101.9 | 104.2 | 105.2 | 108.4 | 109.5 | 112.2 | 106.8 | 102.6 | 149.2 |
| 12500 | 89.2  | 95.0  | 97.0  | 97.7  | 98.5  | 101.2 | 102.8 | 103.2 | 107.4 | 107.7 | 110.5 | 104.7 | 101.2 | 148.4 |
| 16000 | 87.0  | 93.9  | 94.9  | 97.1  | 97.9  | 99.1  | 101.2 | 101.6 | 105.3 | 105.7 | 108.7 | 102.9 | 99.4  | 148.0 |
| 20000 | 84.4  | 91.0  | 93.1  | 94.8  | 95.1  | 98.1  | 98.9  | 98.8  | 102.7 | 103.0 | 106.1 | 100.2 | 95.1  | 147.2 |
| 25000 | 81.5  | 88.5  | 90.8  | 91.8  | 93.2  | 95.5  | 96.9  | 95.7  | 99.8  | 99.3  | 102.0 | 97.7  | 92.7  | 146.4 |
| 31500 | 78.0  | 84.5  | 87.3  | 88.5  | 89.5  | 92.1  | 92.1  | 92.7  | 96.5  | 97.0  | 98.7  | 94.5  | 88.5  | 146.3 |
| 40000 | 73.7  | 80.0  | 85.5  | 83.5  | 85.4  | 89.2  | 87.8  | 88.6  | 92.8  | 93.5  | 95.0  | 90.8  | 83.3  | 146.6 |
| 50000 | 67.3  | 74.4  | 82.5  | 78.3  | 79.8  | 83.3  | 82.2  | 83.3  | 88.1  | 88.9  | 90.3  | 86.5  | 77.1  | 146.1 |
| 63000 | 61.9  | 68.6  | 81.8  | 72.5  | 74.8  | 78.1  | 76.4  | 78.3  | 83.3  | 85.0  | 86.8  | 82.1  | 71.6  | 147.4 |
| 80000 | 54.7  | 61.8  | 79.8  | 65.6  | 68.5  | 72.1  | 70.2  | 71.2  | 76.3  | 80.1  | 82.6  | 76.9  | 64.1  | 149.4 |

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CASPL 108.8 112.5 112.2 112.9 112.6 114.5 116.0 117.8 123.4 127.5 132.0 128.2 126.2 166.2  
PNL 121.5 125.3 125.0 125.5 125.2 127.0 128.8 130.8 136.2 139.9 143.5 138.6 135.8  
PNLT 122.8 126.8 125.0 127.1 126.5 127.0 128.8 131.3 136.2 139.9 143.5 138.6 135.8  
DBA 108.9 112.6 112.1 112.7 112.2 113.9 115.4 117.6 123.4 127.3 132.0 127.1 124.4

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH405     | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 46.30       | PAMB HG = 29.26   | RELHUM = 69.5 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNIN1 =              | LBS XNL =            | RPM XNH =              | RPM VB = 1545.1 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2446.9 FPS | AE18 = 18.0 SQ IN |                   |
| RUNPT = 82F-ZER-7619 | TAPE = X7619C        | TEST PT NO = 7619      | NC = AE074           | CORR FAN SPEED =  | RPM               |



FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7619 X7619F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 84.4  | 85.4  | 82.7  | 83.2  | 83.3  | 85.7  | 87.3  | 86.5  | 88.7  | 95.7  | 95.4  | 95.8  | 95.7  | 132.4 |
| 63    | 88.8  | 91.8  | 89.1  | 88.9  | 91.2  | 94.3  | 97.2  | 91.4  | 95.8  | 104.1 | 103.3 | 103.0 | 101.9 | 140.1 |
| 80    | 89.5  | 94.6  | 89.6  | 91.4  | 90.7  | 93.3  | 93.7  | 92.6  | 95.1  | 94.2  | 97.5  | 99.2  | 100.4 | 136.5 |
| 100   | 88.2  | 95.0  | 91.0  | 92.8  | 93.1  | 94.8  | 95.1  | 96.3  | 97.3  | 98.1  | 99.7  | 103.4 | 104.6 | 139.3 |
| 125   | 84.4  | 88.2  | 90.7  | 92.5  | 92.8  | 93.9  | 94.3  | 93.5  | 95.9  | 98.8  | 105.9 | 107.1 | 108.0 | 141.7 |
| 160   | 84.2  | 85.7  | 88.7  | 88.8  | 88.1  | 91.2  | 93.1  | 92.5  | 96.5  | 99.8  | 106.4 | 108.4 | 111.0 | 142.9 |
| 200   | 87.8  | 88.1  | 88.1  | 90.4  | 91.5  | 93.8  | 94.7  | 95.6  | 100.8 | 102.6 | 108.5 | 111.5 | 112.9 | 145.3 |
| 250   | 86.5  | 90.6  | 91.1  | 91.9  | 91.7  | 93.6  | 96.0  | 98.1  | 101.1 | 107.1 | 112.8 | 115.0 | 114.6 | 148.4 |
| 315   | 87.3  | 90.6  | 89.9  | 91.9  | 93.3  | 95.6  | 96.5  | 98.2  | 103.9 | 109.5 | 115.1 | 115.8 | 115.4 | 149.9 |
| 400   | 89.3  | 91.6  | 91.9  | 92.9  | 93.2  | 95.6  | 97.7  | 98.9  | 105.9 | 113.2 | 117.6 | 116.8 | 115.2 | 151.7 |
| 500   | 90.1  | 94.1  | 92.9  | 94.2  | 94.5  | 97.1  | 98.5  | 100.4 | 107.4 | 115.2 | 119.1 | 117.3 | 114.9 | 152.9 |
| 630   | 92.0  | 95.1  | 94.3  | 95.6  | 95.5  | 98.1  | 100.5 | 102.1 | 108.6 | 117.4 | 120.8 | 118.2 | 116.4 | 154.5 |
| 800   | 95.6  | 96.1  | 96.4  | 97.4  | 96.8  | 99.1  | 101.3 | 103.4 | 110.6 | 117.7 | 122.1 | 119.0 | 116.9 | 155.4 |
| 1000  | 101.3 | 104.3 | 101.6 | 101.1 | 99.2  | 100.8 | 101.9 | 103.8 | 111.3 | 117.4 | 122.3 | 118.9 | 117.1 | 155.6 |
| 1250  | 98.9  | 103.2 | 103.7 | 105.4 | 104.1 | 104.0 | 103.6 | 105.5 | 112.2 | 116.0 | 122.7 | 118.3 | 114.4 | 155.5 |
| 1600  | 97.6  | 99.5  | 99.9  | 100.3 | 101.3 | 103.1 | 105.0 | 106.5 | 113.4 | 116.0 | 123.6 | 117.0 | 113.5 | 155.9 |
| 2000  | 99.8  | 103.3 | 100.7 | 100.9 | 100.0 | 101.8 | 104.1 | 106.9 | 112.7 | 116.8 | 122.3 | 114.9 | 111.4 | 154.9 |
| 2500  | 98.7  | 103.0 | 102.8 | 101.8 | 100.4 | 102.5 | 104.7 | 107.3 | 112.9 | 116.7 | 120.2 | 113.5 | 110.1 | 153.9 |
| 3150  | 98.3  | 102.3 | 101.9 | 102.1 | 101.2 | 103.0 | 105.2 | 107.1 | 112.7 | 116.3 | 118.3 | 112.2 | 108.0 | 152.9 |
| 4000  | 96.2  | 100.1 | 100.9 | 101.3 | 101.5 | 103.0 | 104.1 | 107.4 | 112.1 | 114.5 | 117.5 | 110.8 | 106.8 | 152.0 |
| 5000  | 94.0  | 98.9  | 99.6  | 100.7 | 100.7 | 103.2 | 104.3 | 106.2 | 111.9 | 114.0 | 116.1 | 109.4 | 105.6 | 151.3 |
| 6300  | 93.2  | 97.5  | 98.6  | 100.4 | 100.5 | 103.2 | 104.5 | 106.1 | 110.9 | 112.1 | 114.3 | 108.6 | 104.1 | 150.2 |
| 8000  | 91.8  | 97.3  | 97.7  | 98.6  | 99.8  | 102.3 | 103.8 | 105.6 | 109.9 | 111.0 | 112.4 | 106.9 | 103.3 | 149.3 |
| 10000 | 90.9  | 95.7  | 97.5  | 99.1  | 99.9  | 101.9 | 104.2 | 105.2 | 108.4 | 109.5 | 112.2 | 106.8 | 102.6 | 149.2 |
| 12500 | 89.2  | 95.0  | 97.0  | 97.7  | 98.5  | 101.2 | 102.8 | 103.2 | 107.4 | 107.7 | 110.5 | 104.7 | 101.2 | 148.4 |
| 16000 | 87.0  | 93.9  | 94.9  | 97.1  | 97.9  | 99.1  | 101.2 | 101.6 | 105.3 | 105.7 | 108.7 | 102.9 | 99.4  | 148.0 |
| 20000 | 84.4  | 91.0  | 93.1  | 94.8  | 95.1  | 98.1  | 98.9  | 98.8  | 102.7 | 103.0 | 106.1 | 100.2 | 95.1  | 147.2 |
| 25000 | 81.5  | 88.5  | 90.8  | 91.8  | 93.2  | 95.5  | 96.9  | 95.7  | 99.8  | 99.3  | 102.0 | 97.7  | 92.7  | 146.4 |
| 31500 | 78.0  | 84.5  | 87.3  | 88.5  | 89.5  | 92.1  | 92.1  | 92.7  | 96.5  | 97.0  | 98.7  | 94.5  | 88.5  | 146.3 |
| 40000 | 73.7  | 80.0  | 85.5  | 83.5  | 85.4  | 89.2  | 87.8  | 88.6  | 92.8  | 93.5  | 95.0  | 90.8  | 83.3  | 146.6 |
| 50000 | 67.3  | 74.4  | 82.5  | 78.3  | 79.8  | 83.3  | 82.2  | 83.3  | 88.1  | 88.9  | 90.3  | 86.5  | 77.1  | 146.1 |
| 63000 | 61.9  | 68.6  | 81.8  | 72.5  | 74.8  | 78.1  | 76.4  | 78.3  | 83.3  | 85.0  | 86.8  | 82.1  | 71.6  | 147.4 |
| 80000 | 54.7  | 61.8  | 79.8  | 65.6  | 68.5  | 72.1  | 70.2  | 71.2  | 76.3  | 80.1  | 82.6  | 76.9  | 64.1  | 149.4 |
| 0ASPL | 108.8 | 112.5 | 112.2 | 112.9 | 112.6 | 114.5 | 116.0 | 117.8 | 123.4 | 127.5 | 132.0 | 128.2 | 126.2 | 166.2 |
| PNL   | 121.5 | 125.3 | 125.0 | 125.5 | 125.2 | 127.0 | 128.8 | 130.8 | 136.2 | 139.9 | 143.5 | 138.6 | 135.8 |       |
| PNLT  | 122.8 | 126.8 | 125.0 | 127.1 | 126.5 | 127.0 | 128.8 | 131.3 | 136.2 | 139.9 | 143.5 | 138.6 | 135.8 |       |
| DBA   | 177.3 | 184.2 | 200.5 | 188.1 | 190.6 | 194.1 | 192.4 | 193.6 | 198.6 | 201.6 | 203.9 | 198.6 | 186.9 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH405 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1545.1 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2446.9 FPS AE18 = 18.0 SQ IN

RUNPI = 82F-ZER-7619 TAPE = X7619F TEST PT NO = 7619 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-7619 X76191

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|
| 50    | 68.0 | 71.8 | 73.2 | 74.9 | 75.7 | 78.2 | 80.2 | 80.9 | 87.2 | 93.4 | 96.3  | 93.2 | 88.3 | 169.8 |
| 63    | 68.8 | 74.3 | 74.2 | 76.2 | 76.9 | 79.7 | 80.9 | 82.4 | 88.7 | 95.4 | 97.8  | 93.7 | 88.0 | 171.0 |
| 80    | 70.7 | 75.2 | 75.6 | 77.6 | 77.8 | 80.6 | 82.8 | 84.1 | 89.8 | 97.6 | 99.4  | 94.6 | 89.4 | 172.6 |
| 100   | 74.1 | 76.2 | 77.6 | 79.3 | 79.1 | 81.6 | 83.6 | 85.3 | 91.8 | 97.8 | 100.6 | 95.3 | 89.8 | 173.6 |
| 125   | 79.7 | 84.3 | 82.7 | 82.9 | 81.4 | 83.2 | 84.2 | 85.7 | 92.4 | 97.4 | 100.7 | 95.1 | 89.7 | 173.7 |
| 160   | 77.1 | 83.0 | 84.7 | 87.1 | 86.2 | 86.2 | 85.7 | 87.2 | 93.2 | 95.9 | 100.9 | 94.2 | 86.6 | 173.7 |
| 200   | 75.6 | 79.1 | 80.7 | 81.8 | 83.2 | 85.3 | 86.9 | 88.1 | 94.2 | 95.6 | 101.6 | 92.6 | 85.3 | 174.0 |
| 250   | 77.4 | 82.7 | 81.3 | 82.2 | 81.7 | 83.7 | 85.8 | 88.2 | 93.3 | 96.1 | 99.9  | 90.0 | 82.5 | 173.1 |
| 315   | 75.9 | 82.0 | 83.0 | 82.8 | 81.9 | 84.2 | 86.2 | 88.4 | 93.2 | 95.7 | 97.5  | 88.1 | 80.4 | 172.0 |
| 400   | 75.0 | 81.0 | 81.8 | 82.9 | 82.4 | 84.4 | 86.4 | 87.9 | 92.6 | 94.9 | 95.0  | 86.1 | 77.3 | 171.0 |
| 500   | 72.5 | 78.3 | 80.5 | 81.8 | 82.5 | 84.1 | 85.1 | 87.9 | 91.6 | 92.8 | 93.8  | 84.1 | 75.2 | 170.1 |
| 630   | 69.8 | 76.8 | 78.8 | 80.9 | 81.4 | 84.0 | 85.0 | 86.3 | 91.2 | 91.9 | 91.9  | 82.0 | 72.9 | 169.4 |
| 800   | 68.5 | 75.0 | 77.5 | 80.3 | 80.9 | 83.8 | 84.9 | 86.0 | 89.8 | 89.5 | 89.6  | 80.5 | 70.2 | 168.3 |
| 1000  | 66.6 | 74.5 | 76.4 | 78.3 | 80.0 | 82.8 | 84.0 | 85.3 | 88.6 | 88.1 | 87.3  | 78.1 | 68.2 | 167.4 |
| 1250  | 65.3 | 72.6 | 76.0 | 78.6 | 80.1 | 82.3 | 84.3 | 84.7 | 86.8 | 86.4 | 86.5  | 77.2 | 66.1 | 167.3 |
| 1600  | 62.7 | 71.2 | 75.1 | 76.9 | 78.3 | 81.3 | 82.6 | 82.4 | 85.4 | 83.9 | 84.0  | 73.8 | 62.4 | 166.6 |
| 2000  | 59.5 | 69.6 | 72.5 | 76.1 | 77.6 | 79.1 | 80.9 | 80.6 | 82.9 | 81.4 | 81.2  | 70.4 | 57.6 | 166.2 |
| 2500  | 55.1 | 65.4 | 69.9 | 73.1 | 74.2 | 77.5 | 78.0 | 77.1 | 79.5 | 77.4 | 76.8  | 64.9 | 48.4 | 165.4 |
| 3150  | 48.8 | 60.4 | 65.7 | 68.6 | 70.9 | 73.6 | 74.7 | 72.5 | 74.7 | 71.2 | 69.3  | 57.4 | 37.5 | 164.6 |
| 4000  | 39.1 | 51.7 | 58.4 | 61.9 | 64.3 | 67.3 | 66.9 | 66.1 | 67.6 | 64.3 | 59.8  | 45.2 | 18.9 | 164.5 |
| 5000  | 25.0 | 39.7 | 50.3 | 51.6 | 55.1 | 59.6 | 57.6 | 56.7 | 57.6 | 53.2 | 46.4  | 27.8 |      | 164.7 |
| 6300  | 0.9  | 19.8 | 35.2 | 35.6 | 39.4 | 43.8 | 41.9 | 40.5 | 40.9 | 34.3 | 23.9  |      |      | 164.3 |
| 8000  |      |      | 13.3 | 10.5 | 16.3 | 20.8 | 17.9 | 16.3 | 14.7 | 5.7  |       |      |      | 165.5 |
| 10000 |      |      |      |      |      |      |      |      |      |      |       |      |      | 167.6 |
| 12500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |

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|       |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| OASPL | 86.1 | 91.3 | 92.1 | 93.5  | 93.6  | 95.5  | 96.9  | 98.3  | 103.4 | 106.7 | 109.7 | 103.3 | 97.2 | 184.0 |
| PNL   | 89.5 | 95.9 | 97.6 | 99.6  | 100.5 | 102.7 | 104.1 | 104.6 | 108.8 | 110.5 | 112.7 | 104.2 | 96.8 |       |
| PNLT  | 90.6 | 96.6 | 98.1 | 100.4 | 101.2 | 102.7 | 104.1 | 104.6 | 109.3 | 111.0 | 113.7 | 104.2 | 96.8 |       |
| DBA   | 78.3 | 84.7 | 86.7 | 88.6  | 89.4  | 91.7  | 93.1  | 94.1  | 97.9  | 98.8  | 100.2 | 91.2  | 83.2 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN, DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH405 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.5 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1545.1 FPS AE8 = 3.4 SQ IN  
FNAMB = LBS XNLR = RPM XNHR = RPM V18 = 2446.9 FPS AE18 = 18.0 SQ IN

RT = 82F-ZER-7619 TAPE = X76191 TEST PT NO = 7619 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7620 X7620C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.4 | 87.7 | 81.9 | 84.7 | 82.1 | 82.2 | 82.8  | 84.2  | 88.9  | 88.2  | 91.6  | 93.1  | 102.5 | 132.4 |
| 63    | 90.3 | 91.8 | 87.8 | 90.4 | 88.9 | 88.8 | 88.9  | 85.9  | 95.3  | 94.9  | 95.0  | 94.7  | 100.4 | 134.6 |
| 80    | 89.8 | 94.1 | 89.1 | 90.6 | 90.0 | 92.3 | 92.7  | 91.1  | 94.1  | 93.9  | 95.8  | 97.5  | 102.6 | 136.0 |
| 100   | 88.5 | 93.2 | 89.0 | 90.8 | 91.4 | 92.3 | 93.1  | 94.3  | 95.3  | 95.8  | 97.7  | 102.1 | 104.8 | 137.9 |
| 125   | 86.6 | 88.2 | 89.4 | 91.7 | 91.6 | 93.2 | 92.8  | 92.7  | 93.9  | 96.5  | 103.1 | 105.6 | 107.7 | 140.2 |
| 180   | 84.2 | 82.7 | 86.7 | 87.0 | 86.6 | 88.2 | 89.9  | 88.3  | 93.0  | 97.1  | 103.7 | 106.1 | 109.5 | 140.7 |
| 200   | 85.5 | 85.1 | 84.1 | 85.9 | 87.5 | 89.3 | 91.2  | 92.1  | 97.1  | 98.1  | 104.3 | 108.7 | 110.9 | 142.4 |
| 250   | 83.0 | 86.3 | 85.8 | 87.9 | 88.0 | 89.8 | 92.0  | 93.9  | 97.6  | 103.2 | 109.3 | 111.7 | 111.4 | 145.0 |
| 315   | 84.3 | 87.1 | 85.9 | 87.7 | 88.8 | 91.1 | 93.0  | 94.2  | 99.6  | 105.5 | 111.3 | 112.5 | 112.2 | 146.4 |
| 400   | 85.6 | 86.6 | 87.4 | 88.4 | 89.0 | 91.4 | 93.0  | 94.7  | 100.9 | 108.9 | 114.3 | 113.8 | 109.9 | 148.0 |
| 500   | 86.3 | 88.4 | 88.7 | 89.9 | 91.0 | 92.9 | 94.5  | 96.7  | 103.2 | 111.7 | 116.6 | 113.8 | 106.9 | 149.6 |
| 630   | 87.0 | 89.1 | 89.8 | 90.6 | 91.7 | 94.1 | 96.2  | 98.4  | 104.1 | 113.7 | 117.8 | 113.7 | 104.6 | 150.6 |
| 800   | 89.3 | 89.1 | 90.4 | 91.9 | 92.3 | 94.9 | 97.0  | 100.2 | 106.9 | 114.2 | 118.8 | 112.3 | 101.9 | 151.3 |
| 1000  | 92.8 | 92.3 | 92.3 | 93.9 | 93.4 | 96.6 | 97.2  | 100.6 | 107.6 | 113.9 | 118.5 | 110.4 | 100.4 | 150.9 |
| 1250  | 91.4 | 95.2 | 94.5 | 95.1 | 95.6 | 97.2 | 98.9  | 101.3 | 108.2 | 112.8 | 118.2 | 108.6 | 99.9  | 150.5 |
| 1600  | 93.1 | 93.5 | 93.6 | 95.0 | 95.5 | 98.4 | 100.5 | 102.5 | 110.1 | 113.0 | 117.8 | 108.5 | 99.5  | 150.6 |
| 2000  | 97.0 | 96.6 | 94.5 | 95.1 | 95.2 | 97.8 | 99.8  | 103.4 | 109.5 | 113.3 | 116.8 | 106.3 | 99.9  | 150.0 |
| 2500  | 97.1 | 98.9 | 97.8 | 98.2 | 95.9 | 98.0 | 100.7 | 103.8 | 109.4 | 113.9 | 118.0 | 106.5 | 99.8  | 149.9 |
| 3150  | 96.2 | 97.5 | 97.6 | 98.6 | 97.9 | 99.2 | 100.6 | 103.6 | 109.4 | 113.0 | 114.8 | 105.4 | 98.7  | 149.2 |
| 4000  | 95.2 | 96.0 | 96.4 | 98.8 | 98.7 | 99.7 | 100.8 | 103.9 | 109.3 | 112.0 | 113.7 | 105.0 | 98.3  | 148.8 |
| 5000  | 94.2 | 95.6 | 94.9 | 97.1 | 97.4 | 99.8 | 101.5 | 103.3 | 109.0 | 111.9 | 111.5 | 103.5 | 97.0  | 147.9 |
| 6300  | 94.0 | 95.8 | 95.1 | 97.5 | 97.5 | 99.8 | 100.8 | 103.2 | 108.7 | 110.1 | 110.7 | 102.4 | 95.7  | 147.2 |
| 8000  | 93.5 | 96.1 | 94.6 | 96.6 | 97.0 | 99.1 | 101.0 | 102.6 | 107.6 | 108.4 | 107.9 | 100.4 | 94.8  | 146.1 |
| 10000 | 94.1 | 95.6 | 94.1 | 97.2 | 98.1 | 99.9 | 100.9 | 102.1 | 106.2 | 107.1 | 107.3 | 100.2 | 94.8  | 145.9 |
| 12500 | 93.6 | 95.0 | 93.3 | 96.8 | 96.8 | 98.8 | 100.4 | 100.6 | 105.4 | 105.4 | 105.6 | 98.3  | 93.3  | 145.5 |
| 16000 | 91.1 | 94.2 | 91.7 | 96.7 | 96.0 | 97.8 | 99.1  | 99.7  | 103.6 | 102.7 | 103.1 | 97.6  | 92.1  | 145.1 |
| 20000 | 88.2 | 91.2 | 89.6 | 94.4 | 93.9 | 96.4 | 97.2  | 97.9  | 101.8 | 100.7 | 100.4 | 95.6  | 89.9  | 144.8 |
| 25000 | 84.5 | 88.8 | 88.6 | 91.6 | 92.7 | 94.5 | 95.4  | 94.8  | 98.6  | 96.9  | 97.1  | 93.2  | 87.9  | 144.4 |
| 31500 | 81.0 | 84.0 | 86.1 | 88.6 | 88.9 | 91.7 | 92.0  | 91.6  | 95.8  | 94.5  | 93.5  | 89.8  | 84.0  | 144.4 |
| 40000 | 76.4 | 80.9 | 86.6 | 83.9 | 84.7 | 88.0 | 88.1  | 87.8  | 92.7  | 92.0  | 89.4  | 86.6  | 78.7  | 145.1 |
| 50000 | 70.5 | 75.5 | 86.3 | 78.4 | 79.4 | 83.1 | 82.3  | 82.4  | 87.2  | 86.0  | 84.6  | 81.6  | 73.5  | 144.6 |
| 63000 | 65.6 | 70.5 | 86.7 | 73.3 | 75.0 | 78.5 | 77.4  | 77.8  | 82.4  | 83.2  | 80.8  | 77.5  | 67.3  | 147.0 |
| 80000 | 58.4 | 64.4 | 85.4 | 66.3 | 68.7 | 71.7 | 70.5  | 70.9  | 75.8  | 78.6  | 74.7  | 70.5  | 59.2  | 150.2 |

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GASPL 106.5 108.1 107.2 109.1 109.0 111.0 112.5 114.5 120.2 124.3 127.9 122.7 119.7 162.5  
PNL 119.4 120.9 120.4 121.8 121.8 123.4 124.8 127.3 133.0 136.7 139.4 132.4 127.6  
PNLT 119.4 120.9 120.4 121.8 121.8 123.4 124.8 127.3 133.0 136.7 139.4 132.4 127.6  
DBA 106.0 107.2 106.6 108.0 107.9 109.9 111.5 114.1 120.1 124.2 127.6 120.4 114.0

## NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VERTCL = ADH420 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.45 RELHUM = 62.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =  
FNINT = LBS XNL = RPM XNH = RPM V8 = 1543.5 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.0 FPS AE18 = 18.0 SQ IN  
RUNPT = 82F-400-7620 TAPE = X7620C TEST PT NO = 7620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-7620 X7620F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 90.5  | 92.5  | 90.6  | 91.1  | 89.5  | 89.8  | 90.1  | 90.3  | 96.2  | 101.1 | 106.5 | 108.1 | 109.6 | 142.5 |
| 315   | 90.5  | 92.5  | 90.6  | 91.1  | 90.6  | 91.3  | 91.7  | 91.4  | 98.8  | 106.2 | 111.2 | 111.5 | 110.2 | 145.7 |
| 400   | 92.0  | 93.5  | 90.8  | 91.1  | 90.8  | 91.6  | 92.2  | 92.8  | 101.0 | 109.2 | 114.1 | 112.9 | 109.8 | 147.8 |
| 500   | 93.0  | 92.8  | 92.2  | 91.8  | 92.9  | 93.2  | 93.6  | 94.6  | 102.0 | 111.2 | 115.5 | 113.6 | 109.4 | 149.0 |
| 630   | 94.0  | 94.8  | 93.6  | 93.4  | 93.7  | 94.5  | 95.2  | 96.1  | 105.1 | 112.0 | 117.1 | 113.3 | 109.3 | 150.0 |
| 800   | 94.7  | 95.5  | 94.9  | 94.1  | 94.3  | 95.4  | 96.1  | 97.9  | 106.2 | 112.3 | 117.5 | 112.9 | 110.3 | 150.3 |
| 1000  | 97.0  | 95.6  | 95.5  | 95.5  | 95.4  | 97.2  | 96.4  | 98.5  | 107.0 | 111.3 | 117.3 | 111.1 | 109.9 | 149.9 |
| 1250  | 98.8  | 97.6  | 96.6  | 97.0  | 97.8  | 98.0  | 98.2  | 99.3  | 109.1 | 111.7 | 117.1 | 111.2 | 109.8 | 150.2 |
| 1600  | 98.2  | 101.1 | 99.2  | 98.6  | 98.0  | 99.4  | 100.0 | 100.8 | 108.8 | 112.3 | 116.4 | 109.4 | 110.5 | 150.0 |
| 2000  | 100.7 | 100.0 | 98.9  | 98.9  | 97.3  | 99.1  | 99.6  | 101.9 | 109.1 | 113.4 | 116.0 | 110.1 | 110.9 | 150.2 |
| 2500  | 102.8 | 101.4 | 98.4  | 98.1  | 98.3  | 99.6  | 100.9 | 102.7 | 109.6 | 113.0 | 115.4 | 109.5 | 110.3 | 150.0 |
| 3150  | 102.7 | 103.7 | 101.7 | 101.3 | 101.0 | 101.3 | 101.3 | 103.0 | 110.2 | 112.5 | 114.8 | 109.4 | 110.2 | 150.0 |
| 4000  | 102.6 | 103.4 | 102.6 | 102.6 | 102.4 | 102.2 | 102.0 | 103.9 | 109.9 | 112.4 | 112.4 | 107.7 | 108.7 | 149.4 |
| 5000  | 102.7 | 102.7 | 102.1 | 103.4 | 101.4 | 102.8 | 102.9 | 103.4 | 109.7 | 110.6 | 111.6 | 106.7 | 107.3 | 148.8 |
| 6300  | 101.6 | 102.3 | 100.8 | 101.9 | 101.6 | 102.8 | 102.3 | 103.3 | 108.7 | 109.2 | 109.2 | 105.0 | 106.9 | 147.8 |
| 8000  | 101.3 | 102.4 | 100.8 | 102.2 | 101.1 | 102.1 | 102.5 | 102.7 | 107.8 | 108.4 | 109.1 | 105.5 | 107.5 | 147.9 |
| 10000 | 100.7 | 102.5 | 100.1 | 101.1 | 102.2 | 102.9 | 102.4 | 102.3 | 107.4 | 107.1 | 107.9 | 104.1 | 106.6 | 147.8 |
| 12500 | 101.0 | 101.7 | 99.4  | 101.5 | 100.9 | 101.8 | 102.2 | 101.0 | 106.7 | 105.6 | 106.6 | 104.5 | 106.4 | 147.9 |
| 16000 | 99.9  | 100.6 | 98.0  | 100.5 | 100.1 | 100.8 | 101.3 | 100.7 | 105.4 | 104.1 | 104.5 | 103.1 | 104.8 | 147.9 |
| 20000 | 97.1  | 99.4  | 96.0  | 100.0 | 97.9  | 99.4  | 99.5  | 98.9  | 103.6 | 101.8 | 102.5 | 101.9 | 103.6 | 148.0 |
| 25000 | 93.6  | 95.8  | 93.3  | 97.1  | 97.3  | 97.5  | 97.9  | 96.4  | 101.3 | 99.8  | 99.4  | 99.1  | 100.6 | 148.0 |
| 31500 | 91.8  | 94.9  | 93.2  | 94.7  | 93.5  | 94.7  | 94.3  | 93.0  | 98.3  | 97.3  | 95.3  | 96.0  | 95.7  | 148.2 |
| 40000 | 87.5  | 89.3  | 89.8  | 90.9  | 89.3  | 91.0  | 90.3  | 88.7  | 93.3  | 91.9  | 91.1  | 91.5  | 91.0  | 147.7 |
| 50000 | 82.5  | 85.7  | 90.0  | 85.8  | 83.4  | 86.1  | 84.5  | 83.3  | 88.7  | 89.1  | 87.2  | 87.2  | 84.6  | 148.1 |
| 63000 | 72.9  | 77.1  | 87.1  | 78.2  | 79.1  | 81.5  | 79.2  | 78.1  | 83.2  | 85.5  | 81.9  | 80.7  | 76.4  | 148.6 |
| 80000 | 68.6  | 72.1  | 86.9  | 71.9  | 72.9  | 74.7  | 71.9  | 71.0  | 73.4  | 75.7  | 72.1  | 70.9  | 66.6  | 151.2 |

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GASPL 112.8 113.4 111.8 112.7 112.1 113.0 113.1 113.8 120.4 123.5 127.0 122.9 122.0 163.0  
 PNL 124.9 125.6 124.2 124.5 124.1 124.6 124.6 126.0 132.7 135.6 138.2 133.5 133.7  
 PNLT 124.9 125.6 124.2 124.5 124.1 124.6 124.6 126.0 132.7 135.6 138.2 133.5 133.7  
 DBA 190.7 194.2 207.4 194.4 194.9 196.9 194.5 193.4 197.3 199.2 195.9 195.0 191.3

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH420 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.45 RELHUM = 62.6 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1543.5 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7620 TAPE = X7620F TEST PT NO = 7620 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-7620 X76201

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 70.7 | 73.7 | 72.1 | 73.1  | 73.2  | 74.2  | 74.6  | 74.8  | 82.3  | 89.4  | 92.8  | 89.4  | 82.9 | 165.9 |
| 63    | 71.6 | 73.0 | 73.5 | 73.8  | 75.3  | 75.8  | 76.0  | 76.6  | 83.3  | 91.4  | 94.2  | 90.1  | 82.5 | 167.1 |
| 80    | 72.6 | 75.0 | 74.9 | 75.4  | 76.1  | 77.0  | 77.6  | 78.1  | 86.3  | 92.2  | 95.7  | 89.7  | 82.3 | 168.1 |
| 100   | 73.3 | 75.6 | 76.1 | 76.1  | 76.7  | 77.9  | 78.4  | 79.8  | 87.4  | 92.4  | 96.0  | 89.1  | 83.1 | 168.5 |
| 125   | 75.4 | 75.6 | 76.6 | 77.3  | 77.6  | 79.6  | 78.6  | 80.3  | 88.1  | 91.3  | 95.7  | 87.2  | 82.5 | 168.0 |
| 160   | 77.1 | 77.5 | 77.6 | 78.7  | 79.9  | 80.3  | 80.3  | 81.0  | 90.1  | 91.5  | 95.4  | 87.1  | 82.0 | 168.3 |
| 200   | 76.1 | 80.7 | 80.0 | 80.2  | 80.0  | 81.5  | 82.0  | 82.3  | 89.6  | 91.9  | 94.4  | 85.0  | 82.3 | 168.1 |
| 250   | 78.4 | 79.4 | 79.4 | 80.2  | 79.1  | 81.0  | 81.4  | 83.2  | 89.7  | 92.8  | 93.7  | 85.2  | 82.0 | 168.4 |
| 315   | 80.0 | 80.4 | 78.6 | 79.1  | 79.8  | 81.3  | 82.4  | 83.8  | 89.9  | 92.0  | 92.6  | 84.1  | 80.6 | 168.1 |
| 400   | 79.4 | 82.3 | 81.6 | 82.1  | 82.2  | 82.6  | 82.5  | 83.7  | 90.1  | 91.1  | 91.5  | 83.4  | 79.5 | 168.1 |
| 500   | 78.9 | 81.6 | 82.2 | 83.1  | 83.3  | 83.3  | 82.9  | 84.3  | 89.5  | 90.6  | 88.7  | 81.0  | 77.0 | 167.5 |
| 630   | 78.5 | 80.5 | 81.3 | 83.6  | 82.1  | 83.7  | 83.6  | 83.5  | 88.9  | 88.5  | 87.4  | 79.3  | 74.6 | 166.9 |
| 800   | 76.9 | 79.8 | 79.7 | 81.8  | 82.0  | 83.3  | 82.7  | 83.2  | 87.7  | 86.7  | 84.5  | 76.9  | 73.0 | 166.0 |
| 1000  | 76.2 | 79.5 | 79.5 | 81.9  | 81.3  | 82.5  | 82.8  | 82.4  | 86.5  | 85.5  | 84.0  | 76.7  | 72.5 | 166.0 |
| 1250  | 75.0 | 79.3 | 78.6 | 80.7  | 82.3  | 83.2  | 82.6  | 81.8  | 85.9  | 83.9  | 82.2  | 74.5  | 70.1 | 165.9 |
| 1600  | 74.4 | 78.0 | 77.4 | 80.7  | 80.7  | 81.9  | 82.1  | 80.2  | 84.7  | 81.9  | 80.1  | 73.6  | 67.6 | 166.0 |
| 2000  | 72.4 | 76.2 | 75.7 | 79.5  | 79.8  | 80.7  | 81.0  | 79.7  | 83.1  | 79.8  | 77.0  | 70.5  | 63.0 | 166.1 |
| 2500  | 67.8 | 73.9 | 72.8 | 78.3  | 77.0  | 78.8  | 78.6  | 77.2  | 80.4  | 76.2  | 73.2  | 66.5  | 56.9 | 166.1 |
| 3150  | 60.9 | 67.8 | 68.2 | 73.8  | 75.0  | 75.6  | 75.6  | 73.2  | 76.2  | 71.8  | 66.8  | 58.8  | 45.5 | 166.1 |
| 4000  | 52.9 | 62.1 | 64.3 | 68.1  | 68.2  | 69.9  | 69.1  | 66.5  | 69.4  | 64.6  | 56.4  | 46.8  | 26.1 | 166.3 |
| 5000  | 38.9 | 48.9 | 54.7 | 58.9  | 59.1  | 61.4  | 60.1  | 56.8  | 58.2  | 51.6  | 42.4  | 28.5  |      | 165.9 |
| 6300  | 16.0 | 31.2 | 42.8 | 43.0  | 43.1  | 46.6  | 44.2  | 40.6  | 41.5  | 34.6  | 20.7  | 0.1   |      | 166.2 |
| 8000  |      |      | 18.6 | 16.2  | 20.7  | 24.2  | 20.8  | 16.2  | 14.7  | 6.1   |       |       |      | 166.7 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |      | 169.4 |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 88.9 | 91.3 | 91.1 | 92.7  | 92.8  | 93.8  | 93.8  | 94.2  | 100.3 | 102.5 | 104.8 | 97.9  | 92.4 | 181.0 |
| PNL   | 95.2 | 98.7 | 98.6 | 101.6 | 101.5 | 102.7 | 102.7 | 102.1 | 106.8 | 107.1 | 107.4 | 99.6  | 94.7 |       |
| PNLT  | 95.2 | 98.7 | 99.3 | 102.2 | 101.5 | 102.7 | 102.7 | 102.1 | 107.4 | 107.8 | 107.4 | 100.8 | 94.7 |       |
| DBA   | 85.3 | 88.4 | 88.2 | 90.6  | 90.7  | 91.7  | 91.6  | 91.3  | 96.0  | 95.7  | 95.3  | 87.3  | 83.1 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH420 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 62.10 PAMB HG = 29.45 RELHUM = 62.6 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1543.5 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2459.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7620 TAPE = X76201 TEST PT NO = 7620 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7625 X7625C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4  | 86.2  | 83.4  | 88.5  | 86.8  | 86.2  | 85.3  | 87.0  | 89.4  | 95.5  | 95.6  | 96.3  | 96.2  | 132.9 |
| 63    | 88.3  | 91.0  | 88.8  | 96.4  | 95.2  | 94.6  | 94.0  | 91.9  | 96.1  | 103.9 | 102.8 | 103.0 | 102.1 | 140.1 |
| 80    | 90.8  | 95.8  | 90.1  | 92.9  | 92.0  | 94.6  | 95.5  | 93.4  | 95.8  | 95.9  | 99.0  | 100.2 | 101.4 | 137.7 |
| 100   | 89.2  | 96.2  | 92.3  | 94.5  | 94.6  | 95.8  | 96.6  | 97.5  | 98.0  | 99.3  | 100.7 | 104.6 | 106.3 | 140.6 |
| 125   | 85.9  | 89.7  | 91.9  | 94.2  | 93.6  | 95.4  | 95.8  | 95.2  | 96.9  | 99.5  | 106.9 | 107.8 | 109.5 | 142.8 |
| 160   | 85.2  | 87.2  | 89.5  | 90.5  | 89.1  | 92.0  | 94.9  | 93.3  | 97.7  | 100.8 | 107.4 | 109.4 | 112.5 | 144.1 |
| 200   | 88.8  | 88.8  | 88.8  | 91.9  | 92.7  | 95.1  | 96.2  | 96.6  | 102.3 | 104.1 | 109.8 | 112.7 | 114.1 | 146.6 |
| 250   | 87.5  | 91.3  | 91.8  | 93.1  | 93.0  | 94.3  | 97.0  | 99.1  | 102.1 | 108.6 | 114.0 | 115.7 | 115.6 | 149.5 |
| 315   | 88.6  | 91.9  | 90.9  | 92.9  | 94.0  | 96.4  | 97.3  | 98.9  | 105.4 | 111.0 | 116.8 | 117.0 | 117.2 | 151.5 |
| 400   | 90.6  | 92.6  | 92.6  | 94.2  | 94.0  | 96.6  | 98.7  | 99.9  | 106.9 | 115.4 | 119.6 | 119.0 | 116.9 | 153.7 |
| 500   | 91.6  | 94.6  | 93.9  | 95.2  | 95.3  | 98.1  | 99.5  | 101.9 | 109.1 | 117.5 | 121.1 | 119.0 | 116.2 | 154.8 |
| 630   | 92.8  | 95.8  | 95.3  | 96.6  | 96.5  | 99.1  | 101.5 | 103.4 | 110.6 | 119.7 | 122.8 | 120.0 | 117.1 | 156.4 |
| 800   | 96.8  | 96.6  | 97.6  | 97.9  | 97.3  | 100.1 | 102.8 | 104.7 | 112.4 | 120.0 | 123.3 | 120.3 | 117.2 | 156.9 |
| 1000  | 100.8 | 104.3 | 101.6 | 101.1 | 99.9  | 101.8 | 103.4 | 105.6 | 113.3 | 119.9 | 124.0 | 120.2 | 116.1 | 157.2 |
| 1250  | 100.4 | 104.9 | 105.7 | 105.1 | 103.8 | 104.0 | 104.1 | 106.8 | 114.2 | 119.0 | 124.2 | 118.6 | 113.9 | 157.0 |
| 1600  | 101.1 | 103.5 | 101.3 | 102.5 | 102.5 | 104.4 | 105.7 | 107.8 | 115.6 | 119.5 | 124.6 | 117.5 | 112.8 | 157.3 |
| 2000  | 103.0 | 104.8 | 103.5 | 102.6 | 101.5 | 103.6 | 105.6 | 108.4 | 115.2 | 120.0 | 122.8 | 115.1 | 110.9 | 156.3 |
| 2500  | 101.9 | 104.0 | 104.0 | 104.3 | 102.4 | 104.0 | 105.9 | 108.8 | 114.4 | 120.7 | 120.5 | 114.0 | 109.6 | 155.6 |
| 3150  | 99.3  | 102.3 | 103.4 | 102.6 | 103.2 | 105.3 | 105.9 | 108.9 | 115.0 | 119.5 | 119.1 | 112.2 | 108.2 | 154.7 |
| 4000  | 97.0  | 100.6 | 101.2 | 102.1 | 102.3 | 105.0 | 106.1 | 109.2 | 114.1 | 117.3 | 118.0 | 111.1 | 106.3 | 153.5 |
| 5000  | 95.5  | 99.4  | 100.3 | 101.2 | 101.0 | 104.5 | 105.6 | 108.2 | 113.9 | 116.5 | 116.9 | 109.6 | 104.9 | 152.8 |
| 6300  | 93.9  | 98.0  | 99.6  | 101.1 | 101.0 | 104.2 | 105.7 | 107.6 | 112.4 | 115.1 | 115.3 | 108.6 | 104.1 | 151.8 |
| 8000  | 92.8  | 97.6  | 98.9  | 100.4 | 100.5 | 103.3 | 105.3 | 107.1 | 111.6 | 113.7 | 114.2 | 107.1 | 101.8 | 151.1 |
| 10000 | 91.4  | 96.7  | 98.5  | 100.1 | 101.7 | 103.2 | 104.9 | 106.4 | 110.4 | 112.3 | 113.4 | 106.3 | 101.6 | 150.7 |
| 12500 | 89.5  | 95.5  | 97.3  | 99.4  | 99.5  | 103.0 | 103.3 | 104.5 | 108.9 | 111.2 | 112.0 | 105.2 | 100.2 | 150.2 |
| 16000 | 87.5  | 93.9  | 95.8  | 98.6  | 98.7  | 100.6 | 102.7 | 102.6 | 106.8 | 109.0 | 109.8 | 102.9 | 98.2  | 149.6 |
| 20000 | 84.9  | 90.7  | 93.1  | 95.8  | 95.8  | 99.6  | 100.2 | 100.3 | 104.7 | 106.7 | 107.1 | 100.5 | 95.4  | 149.0 |
| 25000 | 81.5  | 89.0  | 90.5  | 93.3  | 93.7  | 96.5  | 97.7  | 97.5  | 101.8 | 102.5 | 103.0 | 98.7  | 91.7  | 148.0 |
| 31500 | 78.2  | 84.2  | 86.8  | 89.7  | 90.0  | 93.4  | 93.3  | 93.7  | 98.5  | 101.3 | 99.7  | 94.7  | 87.7  | 148.2 |
| 40000 | 73.9  | 80.4  | 83.9  | 85.0  | 86.3  | 89.7  | 89.0  | 89.8  | 95.2  | 98.7  | 96.3  | 91.3  | 83.0  | 149.0 |
| 50000 | 67.8  | 74.3  | 81.9  | 79.8  | 80.7  | 84.5  | 83.9  | 84.3  | 89.6  | 94.1  | 92.3  | 87.2  | 77.3  | 148.6 |
| 63000 | 62.1  | 68.8  | 80.5  | 74.0  | 75.7  | 79.5  | 77.8  | 79.2  | 84.7  | 90.5  | 88.0  | 83.1  | 70.8  | 149.8 |
| 80000 | 55.2  | 62.3  | 78.5  | 67.8  | 69.7  | 73.0  | 71.4  | 72.9  | 79.5  | 84.3  | 84.1  | 76.9  | 62.4  | 151.3 |

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OASPL 110.5 113.5 113.4 114.0 113.6 115.8 117.2 119.3 125.3 130.4 133.3 129.3 126.7 167.8  
PNL 123.4 126.1 126.3 126.7 126.5 128.7 129.9 132.4 138.2 142.9 144.4 139.2 135.8  
PNLT 123.4 127.3 127.6 127.8 126.5 128.7 129.9 138.2 138.2 142.9 144.4 139.2 135.8  
DBA 110.8 119.7 113.5 113.6 113.1 115.2 116.6 119.1 125.4 130.3 133.1 128.0 124.4

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|                      |                      |                        |                      |                   |                   |
|----------------------|----------------------|------------------------|----------------------|-------------------|-------------------|
| VEHICLE = ADH404     | TEST DATE = 11-29-82 | LOCAT = C41 ANECH CH   | CONFIG = 6           | MODEL = 6         | FLTVEL = 0. FPS   |
| IAPLHA = SB59        | IEGA = NO            | PWL AREA = FULL SPHERE | TAMB F = 46.30       | PAMB HG = 29.24   | RELHUM = 69.1 PCT |
| WIND DIR =           | DEG WIND VEL = MPH   | EXT DIST = 40.0 FT     | EXT CONFIG = ARC     | MIKE HT =         | NBFR =            |
| FNINT =              | LBS XNL =            | RPM XNH =              | RPM V8 = 1587.1 FPS  | AE8 = 3.4 SQ IN   |                   |
| FNRAMB =             | LBS XNLR =           | RPM XNHR =             | RPM V18 = 2525.3 FPS | AE18 = 18.0 SQ IN |                   |
| RUNPT = 82F-ZER-7625 | TAPE = X7625C        | TEST PT NO = 7625      | NC = AE074           | CORR FAN SPEED =  | RPM               |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7625 X7625F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 85.4  | 86.2  | 83.4  | 88.5  | 86.8  | 86.2  | 85.3  | 87.0  | 89.4  | 95.5  | 95.6  | 96.3  | 96.2  | 132.9 |
| 63    | 88.3  | 91.0  | 88.8  | 96.4  | 95.2  | 94.6  | 94.0  | 91.9  | 96.1  | 103.9 | 102.8 | 103.0 | 102.1 | 140.1 |
| 80    | 90.8  | 95.8  | 90.1  | 92.9  | 92.0  | 94.6  | 95.5  | 93.4  | 95.8  | 95.9  | 99.0  | 100.2 | 101.4 | 137.7 |
| 100   | 89.2  | 96.2  | 92.3  | 94.5  | 94.6  | 95.8  | 96.6  | 97.5  | 98.0  | 99.3  | 100.7 | 104.6 | 106.3 | 140.6 |
| 125   | 85.9  | 89.7  | 91.9  | 94.2  | 93.6  | 95.4  | 95.8  | 95.2  | 96.9  | 99.5  | 106.9 | 107.8 | 109.5 | 142.8 |
| 160   | 85.2  | 87.2  | 89.5  | 90.5  | 89.1  | 92.0  | 94.9  | 93.5  | 97.7  | 100.8 | 107.4 | 109.4 | 112.5 | 144.1 |
| 200   | 88.8  | 88.8  | 88.8  | 91.9  | 92.7  | 95.1  | 96.2  | 96.6  | 102.3 | 104.1 | 109.8 | 112.7 | 114.1 | 146.6 |
| 250   | 87.5  | 91.3  | 91.8  | 93.1  | 93.0  | 94.3  | 97.0  | 99.1  | 102.1 | 106.6 | 114.0 | 115.7 | 115.6 | 149.5 |
| 315   | 88.6  | 91.9  | 90.9  | 92.9  | 94.0  | 96.4  | 97.3  | 98.9  | 105.4 | 111.0 | 116.8 | 117.0 | 117.2 | 151.5 |
| 400   | 90.6  | 92.6  | 92.6  | 94.2  | 94.0  | 96.6  | 98.7  | 99.9  | 106.9 | 115.4 | 119.6 | 119.0 | 116.9 | 153.7 |
| 500   | 91.6  | 94.6  | 93.9  | 95.2  | 95.3  | 98.1  | 99.5  | 101.9 | 109.1 | 117.5 | 121.1 | 119.0 | 116.2 | 154.8 |
| 630   | 92.8  | 95.8  | 95.3  | 96.6  | 96.5  | 99.1  | 101.5 | 103.4 | 110.6 | 119.7 | 122.8 | 120.0 | 117.1 | 156.4 |
| 800   | 96.8  | 96.6  | 97.6  | 97.9  | 97.3  | 100.1 | 102.8 | 104.7 | 112.4 | 120.0 | 123.3 | 120.3 | 117.2 | 156.9 |
| 1000  | 100.8 | 104.3 | 101.6 | 101.1 | 99.9  | 101.8 | 103.4 | 105.6 | 113.3 | 119.9 | 124.0 | 120.2 | 116.1 | 157.2 |
| 1250  | 100.4 | 104.9 | 105.7 | 105.1 | 103.8 | 104.0 | 104.1 | 106.8 | 114.2 | 119.0 | 124.2 | 118.6 | 113.9 | 157.0 |
| 1600  | 101.1 | 103.5 | 101.9 | 102.5 | 102.5 | 104.4 | 105.7 | 107.8 | 115.6 | 119.5 | 124.6 | 117.5 | 112.8 | 157.3 |
| 2000  | 103.0 | 104.8 | 103.5 | 102.6 | 101.5 | 103.6 | 105.6 | 108.4 | 115.2 | 120.0 | 122.8 | 115.1 | 110.9 | 156.3 |
| 2500  | 101.9 | 104.0 | 104.0 | 104.3 | 102.4 | 104.0 | 105.9 | 108.8 | 114.4 | 120.7 | 120.5 | 114.0 | 109.6 | 155.6 |
| 3150  | 99.3  | 102.3 | 103.4 | 102.6 | 103.2 | 105.3 | 105.9 | 108.9 | 115.0 | 119.5 | 119.1 | 112.2 | 108.2 | 154.7 |
| 4000  | 97.0  | 100.6 | 101.2 | 102.1 | 102.3 | 105.0 | 106.1 | 109.2 | 114.1 | 117.3 | 118.0 | 111.1 | 106.3 | 153.5 |
| 5000  | 95.5  | 99.4  | 100.3 | 101.2 | 101.0 | 104.5 | 105.6 | 108.2 | 113.9 | 116.5 | 116.9 | 109.6 | 104.9 | 152.8 |
| 6300  | 93.9  | 98.0  | 99.6  | 101.1 | 101.0 | 104.2 | 105.7 | 107.6 | 112.4 | 115.1 | 115.3 | 108.6 | 104.1 | 151.8 |
| 8000  | 92.8  | 97.6  | 98.9  | 100.4 | 100.5 | 103.3 | 105.3 | 107.1 | 111.6 | 113.7 | 114.2 | 107.1 | 101.8 | 151.1 |
| 10000 | 91.4  | 96.7  | 98.5  | 100.1 | 101.7 | 103.2 | 104.9 | 106.4 | 110.4 | 112.3 | 113.4 | 106.3 | 101.6 | 150.7 |
| 12500 | 89.5  | 95.5  | 97.3  | 99.4  | 99.5  | 103.0 | 103.3 | 104.5 | 108.9 | 111.2 | 112.0 | 105.2 | 100.2 | 150.2 |
| 16000 | 87.5  | 93.9  | 95.6  | 98.6  | 98.7  | 100.6 | 102.7 | 102.6 | 106.8 | 109.0 | 109.8 | 102.9 | 98.2  | 149.6 |
| 20000 | 84.9  | 90.7  | 93.1  | 95.8  | 95.8  | 99.6  | 100.2 | 100.3 | 104.7 | 106.7 | 107.1 | 100.5 | 95.4  | 149.0 |
| 25000 | 81.5  | 89.0  | 90.5  | 93.3  | 93.7  | 96.5  | 97.7  | 97.5  | 101.8 | 102.5 | 103.0 | 98.7  | 91.7  | 148.0 |
| 31500 | 78.2  | 84.2  | 86.8  | 89.7  | 90.0  | 93.4  | 93.3  | 93.7  | 98.5  | 101.3 | 99.7  | 94.7  | 87.7  | 148.2 |
| 40000 | 73.9  | 80.4  | 83.9  | 85.0  | 86.3  | 89.7  | 89.0  | 89.8  | 95.2  | 98.7  | 96.3  | 91.3  | 83.0  | 149.0 |
| 50000 | 67.8  | 74.3  | 81.9  | 79.8  | 80.7  | 84.5  | 83.9  | 84.3  | 89.6  | 94.1  | 92.3  | 87.2  | 77.3  | 148.6 |
| 63000 | 62.1  | 68.8  | 80.5  | 74.0  | 75.7  | 79.5  | 77.8  | 79.2  | 84.7  | 90.5  | 88.0  | 83.1  | 70.8  | 149.8 |
| 80000 | 55.2  | 62.3  | 78.5  | 67.8  | 69.7  | 73.0  | 71.4  | 72.9  | 79.5  | 84.3  | 84.1  | 76.9  | 62.4  | 151.3 |
| OASPL | 110.5 | 113.5 | 113.4 | 114.0 | 113.6 | 115.8 | 117.2 | 119.3 | 125.3 | 130.4 | 133.3 | 129.3 | 126.7 | 167.8 |
| PNL   | 123.4 | 126.1 | 126.3 | 126.7 | 126.5 | 128.7 | 129.9 | 132.4 | 138.2 | 142.9 | 144.4 | 139.2 | 135.8 |       |
| PNLT  | 123.4 | 127.3 | 127.6 | 127.8 | 126.5 | 128.7 | 129.9 | 132.9 | 138.2 | 142.9 | 144.4 | 139.2 | 135.8 |       |
| DBA   | 177.7 | 184.5 | 199.2 | 189.9 | 191.7 | 195.2 | 193.7 | 195.0 | 201.2 | 206.2 | 205.3 | 198.8 | 185.7 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH404 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = S859 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.24 RELHUM = 69.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1587.1 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2525.3 FPS AE18 = 18.0 SQ IN

RUMPT = 82F-ZER-7625 TAPE = X7625F TEST PT NO = 7625 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-7625 X76251

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 69.3 | 72.8 | 73.9 | 76.2  | 76.4  | 79.2  | 81.2  | 81.9  | 88.2  | 95.7  | 98.3  | 95.5  | 90.1 | 171.8 |
| 63    | 70.3 | 74.8 | 75.2 | 77.2  | 77.7  | 80.7  | 81.9  | 83.9  | 90.4  | 97.7  | 99.8  | 95.5  | 89.3 | 172.9 |
| 80    | 71.4 | 76.0 | 76.6 | 78.6  | 78.8  | 81.6  | 83.8  | 85.3  | 91.8  | 99.8  | 101.4 | 96.4  | 90.1 | 174.5 |
| 100   | 75.4 | 76.7 | 78.8 | 79.8  | 79.6  | 82.6  | 85.1  | 86.6  | 93.6  | 100.1 | 101.9 | 96.6  | 90.0 | 175.0 |
| 125   | 79.2 | 84.3 | 82.7 | 82.9  | 82.2  | 84.2  | 85.7  | 87.4  | 94.4  | 99.9  | 102.4 | 96.3  | 88.7 | 175.4 |
| 160   | 78.6 | 84.8 | 86.7 | 86.8  | 86.0  | 86.2  | 86.2  | 88.5  | 95.2  | 98.9  | 102.4 | 94.5  | 86.1 | 175.2 |
| 200   | 79.1 | 83.1 | 82.7 | 84.1  | 84.5  | 86.5  | 87.7  | 89.3  | 96.4  | 99.1  | 102.6 | 93.1  | 84.5 | 175.5 |
| 250   | 80.7 | 84.2 | 84.0 | 83.9  | 83.2  | 85.5  | 87.3  | 89.7  | 95.8  | 99.4  | 100.4 | 90.2  | 82.0 | 174.5 |
| 315   | 79.1 | 83.0 | 84.3 | 85.3  | 83.9  | 85.7  | 87.5  | 89.9  | 94.7  | 99.7  | 97.7  | 88.6  | 79.9 | 173.7 |
| 400   | 76.0 | 81.0 | 83.3 | 83.4  | 84.4  | 86.6  | 87.1  | 89.6  | 94.9  | 98.2  | 95.8  | 86.1  | 77.5 | 172.8 |
| 500   | 73.2 | 78.8 | 80.7 | 82.5  | 83.2  | 86.1  | 87.1  | 89.6  | 93.6  | 95.5  | 94.3  | 84.4  | 74.7 | 171.6 |
| 630   | 71.3 | 77.3 | 79.6 | 81.4  | 81.7  | 85.3  | 86.3  | 88.3  | 93.2  | 94.4  | 92.6  | 82.2  | 72.2 | 170.9 |
| 800   | 69.2 | 75.5 | 78.5 | 81.0  | 81.4  | 84.8  | 86.1  | 87.3  | 91.3  | 92.5  | 90.6  | 80.5  | 70.2 | 169.9 |
| 1000  | 67.6 | 74.8 | 77.6 | 80.1  | 80.8  | 83.8  | 85.5  | 86.8  | 90.3  | 90.9  | 89.0  | 78.4  | 66.8 | 169.2 |
| 1250  | 65.8 | 73.6 | 77.0 | 79.6  | 81.8  | 83.5  | 85.1  | 86.0  | 88.8  | 89.1  | 87.7  | 76.7  | 65.1 | 168.9 |
| 1600  | 63.0 | 71.7 | 75.3 | 78.6  | 79.3  | 83.0  | 83.1  | 83.7  | 86.9  | 87.4  | 85.5  | 74.3  | 61.4 | 168.3 |
| 2000  | 60.0 | 69.6 | 73.3 | 77.6  | 78.4  | 80.6  | 82.4  | 81.6  | 84.4  | 84.6  | 82.2  | 70.4  | 56.4 | 167.7 |
| 2500  | 55.6 | 65.1 | 69.9 | 74.7  | 74.9  | 79.0  | 79.3  | 78.6  | 81.5  | 81.1  | 77.8  | 65.1  | 48.6 | 167.1 |
| 3150  | 46.8 | 60.9 | 65.4 | 70.1  | 71.4  | 74.6  | 75.4  | 74.2  | 76.7  | 74.5  | 70.3  | 58.4  | 36.5 | 166.1 |
| 4000  | 39.3 | 51.5 | 57.9 | 63.2  | 64.8  | 68.6  | 68.1  | 67.1  | 69.6  | 68.5  | 60.8  | 45.4  | 18.1 | 166.4 |
| 5000  | 25.2 | 40.1 | 48.8 | 53.0  | 56.1  | 60.1  | 58.8  | 57.9  | 60.1  | 58.4  | 47.6  | 28.3  |      | 167.1 |
| 6300  | 1.3  | 19.8 | 34.7 | 37.1  | 40.4  | 45.0  | 43.6  | 41.5  | 42.4  | 39.5  | 25.8  | 0.1   |      | 166.7 |
| 8000  |      |      | 12.0 | 12.0  | 17.3  | 22.2  | 19.4  | 17.3  | 16.2  | 11.1  |       |       |      | 167.9 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |      | 169.4 |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| OASPL | 87.8 | 92.4 | 93.4 | 94.5  | 94.5  | 96.8  | 98.0  | 99.8  | 105.4 | 109.6 | 111.0 | 104.5 | 97.6 | 185.7 |
| PNL   | 91.5 | 96.8 | 98.7 | 100.8 | 101.4 | 104.2 | 105.3 | 106.0 | 110.8 | 113.8 | 113.8 | 104.9 | 96.5 |       |
| PNLT  | 92.6 | 97.4 | 99.4 | 101.4 | 101.4 | 104.2 | 105.8 | 106.0 | 110.8 | 114.3 | 113.8 | 106.1 | 96.5 |       |
| DBA   | 80.0 | 85.5 | 87.7 | 89.7  | 90.4  | 93.1  | 94.3  | 95.7  | 99.8  | 101.9 | 101.1 | 91.6  | 82.8 |       |

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MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH404 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.24 RELHUM = 69.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1587.1 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2525.3 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7625 TAPE = X76251 TEST PT NO = 7625 NC = AE074 CORR FAN SPEED = RPM



UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7626 X7626C  
BACKGROUND 82F-400-0100 X01000

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 89.4 | 87.7  | 82.9  | 84.5  | 82.6  | 82.7  | 82.8  | 86.7  | 89.2  | 88.7  | 86.1  | 94.3  | 102.0 | 133.1 |
| 63    | 91.8 | 90.8  | 89.1  | 88.9  | 89.7  | 90.1  | 89.4  | 91.9  | 95.3  | 95.6  | 103.0 | 96.5  | 102.9 | 137.4 |
| 80    | 90.8 | 95.3  | 89.6  | 92.1  | 91.5  | 94.1  | 94.5  | 90.4  | 95.3  | 95.2  | 97.5  | 99.0  | 103.6 | 137.3 |
| 100   | 89.0 | 95.0  | 90.0  | 92.0  | 92.4  | 94.0  | 94.4  | 93.5  | 96.0  | 96.8  | 98.7  | 103.1 | 106.3 | 139.0 |
| 125   | 87.4 | 89.2  | 90.7  | 92.7  | 92.8  | 94.4  | 94.1  | 92.2  | 95.2  | 97.5  | 104.6 | 107.1 | 109.0 | 141.5 |
| 160   | 85.4 | 84.0  | 88.2  | 88.3  | 87.4  | 89.7  | 90.9  | 89.0  | 94.7  | 98.3  | 104.9 | 107.6 | 111.8 | 142.5 |
| 200   | 86.3 | 86.3  | 85.1  | 87.1  | 88.2  | 90.6  | 91.7  | 92.4  | 98.6  | 99.6  | 105.5 | 109.5 | 111.6 | 143.3 |
| 250   | 84.0 | 86.8  | 87.1  | 88.6  | 89.2  | 91.3  | 93.0  | 94.4  | 98.3  | 104.9 | 110.5 | 113.5 | 113.4 | 146.7 |
| 315   | 85.1 | 88.4  | 87.1  | 88.7  | 89.8  | 92.4  | 93.8  | 95.4  | 100.9 | 107.2 | 113.1 | 114.5 | 114.2 | 148.2 |
| 400   | 86.6 | 87.6  | 88.6  | 89.9  | 90.5  | 93.1  | 94.3  | 95.7  | 102.9 | 110.9 | 116.3 | 116.5 | 112.7 | 150.3 |
| 500   | 86.8 | 89.4  | 89.4  | 91.4  | 92.0  | 94.9  | 95.8  | 97.4  | 104.9 | 113.7 | 118.1 | 115.8 | 109.7 | 151.3 |
| 630   | 88.5 | 90.3  | 90.9  | 92.4  | 92.7  | 95.6  | 97.7  | 99.4  | 106.4 | 116.2 | 120.1 | 116.0 | 106.6 | 152.9 |
| 800   | 90.8 | 90.1  | 91.9  | 93.2  | 93.3  | 96.6  | 98.8  | 101.2 | 108.7 | 117.5 | 120.6 | 114.3 | 104.4 | 153.5 |
| 1000  | 94.5 | 94.3  | 94.8  | 95.9  | 95.7  | 97.8  | 99.2  | 101.9 | 109.1 | 117.4 | 121.0 | 113.2 | 103.9 | 153.6 |
| 1250  | 94.9 | 98.7  | 97.5  | 98.9  | 98.1  | 100.0 | 100.9 | 103.3 | 110.5 | 116.8 | 120.9 | 111.1 | 103.1 | 153.5 |
| 1600  | 99.1 | 98.7  | 97.6  | 98.0  | 97.8  | 100.6 | 102.5 | 104.0 | 112.1 | 116.7 | 122.6 | 111.5 | 103.0 | 154.6 |
| 2000  | 99.8 | 101.1 | 100.5 | 100.4 | 98.0  | 100.1 | 102.1 | 104.6 | 112.0 | 117.5 | 120.8 | 109.9 | 103.4 | 153.8 |
| 2500  | 97.6 | 99.4  | 100.3 | 102.0 | 100.9 | 101.0 | 102.7 | 105.5 | 111.2 | 117.7 | 119.5 | 109.0 | 102.3 | 153.2 |
| 3150  | 96.0 | 97.3  | 98.3  | 99.6  | 100.9 | 103.5 | 103.6 | 105.8 | 111.9 | 116.5 | 116.8 | 107.2 | 100.7 | 151.8 |
| 4000  | 94.4 | 96.2  | 96.6  | 98.0  | 99.0  | 101.9 | 104.3 | 106.1 | 111.5 | 114.9 | 114.9 | 105.7 | 99.3  | 150.6 |
| 5000  | 93.9 | 95.6  | 95.7  | 97.6  | 97.9  | 100.6 | 103.5 | 105.5 | 111.3 | 114.9 | 113.7 | 104.5 | 98.8  | 150.2 |
| 6300  | 94.3 | 96.0  | 95.8  | 97.4  | 97.8  | 101.0 | 102.8 | 105.7 | 110.7 | 113.1 | 111.9 | 103.4 | 97.4  | 149.2 |
| 8000  | 93.5 | 96.8  | 96.8  | 97.1  | 97.2  | 100.0 | 102.5 | 104.6 | 109.8 | 111.4 | 110.6 | 101.6 | 96.2  | 148.4 |
| 10000 | 93.8 | 96.0  | 97.1  | 98.4  | 98.8  | 100.3 | 102.5 | 104.0 | 108.2 | 109.8 | 108.7 | 101.4 | 95.2  | 147.7 |
| 12500 | 92.3 | 94.6  | 96.7  | 97.7  | 97.7  | 100.2 | 101.0 | 102.2 | 107.6 | 107.8 | 107.2 | 99.7  | 94.5  | 147.2 |
| 16000 | 90.5 | 93.6  | 94.5  | 96.8  | 97.2  | 97.9  | 100.5 | 100.8 | 105.7 | 105.3 | 105.4 | 98.4  | 93.2  | 146.8 |
| 20000 | 87.1 | 89.8  | 92.4  | 95.0  | 94.2  | 97.0  | 98.6  | 98.5  | 103.3 | 102.3 | 102.8 | 95.9  | 90.5  | 146.1 |
| 25000 | 83.9 | 87.1  | 90.2  | 91.2  | 91.8  | 95.1  | 96.6  | 95.9  | 99.7  | 98.9  | 99.2  | 94.1  | 88.1  | 145.5 |
| 31500 | 80.0 | 84.0  | 86.8  | 88.1  | 88.8  | 91.7  | 92.4  | 92.6  | 97.0  | 96.7  | 95.9  | 90.3  | 85.0  | 145.6 |
| 40000 | 75.6 | 80.1  | 86.8  | 83.4  | 85.4  | 89.0  | 88.8  | 89.0  | 94.1  | 93.7  | 93.3  | 86.8  | 80.1  | 146.6 |
| 50000 | 70.5 | 75.6  | 87.4  | 78.4  | 79.9  | 84.2  | 84.1  | 84.4  | 89.8  | 90.0  | 89.1  | 82.6  | 75.0  | 147.0 |
| 63000 | 65.8 | 71.0  | 88.3  | 74.0  | 75.7  | 79.1  | 79.1  | 80.5  | 85.2  | 88.9  | 85.3  | 78.6  | 68.7  | 149.8 |
| 80000 | 60.0 | 65.9  | 87.7  | 67.5  | 69.6  | 73.8  | 72.3  | 73.9  | 80.4  | 84.6  | 80.2  | 72.6  | 61.0  | 153.4 |

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GASPL 107.7 109.4 109.5 110.6 110.5 112.7 114.4 116.3 122.3 127.6 130.6 124.9 121.6 165.1

PNL 120.3 121.9 122.2 123.6 123.6 126.0 127.3 129.2 135.1 140.0 142.2 134.5 129.6

PNLT 120.3 121.9 122.2 123.6 123.6 126.0 127.3 129.2 135.1 140.0 142.2 134.5 129.6

L5A 107.5 108.9 108.9 110.0 109.8 112.0 113.7 116.0 122.2 127.7 130.6 122.7 116.4

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH421 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 EGA = NO PWL AREA = FULL SPHERE TAMB F = 65.10 PAMB HG = 29.45 RELHUM = 62.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1614.0 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2558.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7626 TAPE = X7626C TEST PT NO = 7626 NC = AE075 CORR FAN SPEED = RPM

IDENTIFICATION - 82F-400-7626 X7626F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 91.9  | 93.3  | 92.0  | 91.9  | 90.8  | 91.3  | 91.1  | 90.8  | 97.4  | 102.8 | 108.2 | 110.1 | 111.6 | 144.3 |
| 315   | 91.9  | 93.3  | 92.0  | 91.9  | 91.6  | 92.6  | 92.4  | 92.6  | 100.6 | 107.8 | 112.8 | 113.8 | 112.5 | 147.7 |
| 400   | 92.8  | 94.8  | 92.1  | 92.1  | 92.4  | 93.4  | 93.4  | 93.7  | 103.0 | 111.4 | 115.9 | 115.1 | 112.6 | 149.8 |
| 500   | 94.2  | 94.0  | 93.6  | 93.3  | 93.9  | 95.2  | 94.9  | 95.5  | 104.2 | 113.6 | 117.7 | 115.8 | 111.4 | 151.2 |
| 630   | 94.5  | 95.8  | 94.4  | 94.9  | 94.7  | 96.0  | 96.7  | 97.1  | 106.8 | 115.2 | 118.8 | 115.3 | 111.7 | 152.1 |
| 800   | 96.2  | 96.8  | 95.9  | 95.9  | 95.3  | 97.2  | 97.8  | 98.9  | 107.8 | 115.8 | 120.1 | 115.7 | 113.9 | 153.1 |
| 1000  | 98.5  | 96.6  | 97.0  | 96.8  | 97.6  | 98.5  | 98.4  | 99.8  | 109.2 | 115.3 | 120.0 | 113.6 | 113.1 | 152.8 |
| 1250  | 100.4 | 99.5  | 99.0  | 98.9  | 100.2 | 100.8 | 100.2 | 101.3 | 111.1 | 115.3 | 121.7 | 114.0 | 113.0 | 154.0 |
| 1600  | 101.1 | 104.1 | 101.9 | 102.1 | 99.7  | 101.7 | 102.0 | 102.2 | 111.3 | 116.5 | 120.3 | 112.8 | 113.9 | 153.6 |
| 2000  | 104.5 | 103.3 | 101.3 | 100.8 | 100.1 | 101.4 | 101.9 | 103.1 | 110.8 | 117.0 | 119.3 | 112.2 | 113.0 | 153.2 |
| 2500  | 105.7 | 106.0 | 104.4 | 103.3 | 103.7 | 102.6 | 102.8 | 104.4 | 112.0 | 116.3 | 117.1 | 110.8 | 111.8 | 152.5 |
| 3150  | 104.5 | 105.6 | 105.4 | 106.0 | 104.2 | 105.5 | 104.2 | 105.1 | 112.2 | 115.2 | 115.6 | 109.6 | 110.3 | 151.9 |
| 4000  | 103.6 | 103.9 | 103.9 | 104.0 | 102.6 | 104.5 | 105.5 | 106.0 | 112.0 | 115.2 | 114.3 | 108.2 | 109.5 | 151.4 |
| 5000  | 101.9 | 102.9 | 102.3 | 102.7 | 101.9 | 103.6 | 104.9 | 105.5 | 111.5 | 113.5 | 112.6 | 107.2 | 108.3 | 150.3 |
| 6300  | 101.4 | 102.3 | 101.5 | 102.4 | 101.8 | 104.0 | 104.2 | 105.7 | 110.8 | 111.9 | 111.5 | 105.6 | 107.4 | 149.6 |
| 8000  | 101.6 | 102.6 | 101.5 | 102.1 | 101.3 | 103.0 | 103.9 | 104.6 | 109.4 | 110.6 | 110.0 | 105.9 | 107.1 | 149.0 |
| 10000 | 100.6 | 103.2 | 102.3 | 101.6 | 102.8 | 103.3 | 104.0 | 104.1 | 109.2 | 109.1 | 109.0 | 104.9 | 107.1 | 149.1 |
| 12500 | 100.7 | 102.2 | 102.3 | 102.7 | 101.8 | 103.2 | 102.6 | 102.4 | 108.2 | 107.5 | 108.2 | 104.7 | 106.9 | 149.1 |
| 16000 | 98.6  | 100.2 | 101.4 | 101.4 | 101.2 | 100.9 | 102.3 | 101.3 | 106.4 | 105.1 | 106.2 | 102.8 | 104.9 | 148.8 |
| 20000 | 95.4  | 98.8  | 98.8  | 100.2 | 98.8  | 100.0 | 100.6 | 99.1  | 103.9 | 103.0 | 103.9 | 102.2 | 103.6 | 148.6 |
| 25000 | 95.2  | 96.7  | 97.9  | 98.8  | 96.4  | 98.1  | 98.8  | 97.0  | 101.8 | 101.2 | 101.1 | 98.9  | 101.1 | 148.9 |
| 31500 | 91.2  | 93.2  | 94.8  | 94.3  | 93.4  | 94.7  | 94.6  | 93.5  | 99.2  | 98.4  | 98.5  | 95.3  | 96.3  | 148.8 |
| 40000 | 86.5  | 89.2  | 90.6  | 90.3  | 90.0  | 92.0  | 90.7  | 89.4  | 95.0  | 94.6  | 94.2  | 90.8  | 90.6  | 148.8 |
| 50000 | 82.7  | 84.9  | 90.2  | 85.2  | 83.9  | 87.2  | 85.8  | 84.6  | 91.1  | 94.3  | 91.1  | 87.4  | 84.4  | 150.0 |
| 63000 | 72.9  | 77.2  | 88.2  | 78.2  | 79.8  | 82.1  | 80.5  | 87.8  | 91.5  | 87.4  | 82.8  | 78.2  | 151.8 |       |
| 80000 | 68.8  | 72.7  | 88.5  | 72.7  | 73.7  | 76.8  | 73.8  | 73.9  | 78.0  | 81.7  | 77.6  | 73.0  | 68.4  | 153.4 |

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GASPL 113.9 114.7 114.1 114.2 113.5 114.6 115.0 115.5 122.3 126.6 129.7 124.9 124.1 165.2  
 PNL 126.4 127.2 126.6 126.9 125.8 127.0 127.2 127.9 134.7 138.5 140.2 134.7 135.0  
 PNLT 126.4 127.2 126.6 126.9 125.8 127.0 127.2 127.9 134.7 138.5 140.2 134.7 135.0  
 DBA 190.8 194.5 209.0 194.7 195.7 196.5 196.1 196.0 201.5 205.0 201.1 196.6 192.5

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH421 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 65.10 PAMB HG = 29.45 RELHUM = 62.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1614.0 FPS AEB = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2558.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7626 TAPE = X7626F TEST PT NO = 7626 NC = AE075 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-400-7626 X76261

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140.  | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|
| FREQ  |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 50    | 71.5 | 75.0 | 73.4 | 74.1 | 74.8 | 75.9 | 75.9 | 75.7 | 84.3 | 91.6 | 94.6  | 91.6 | 85.8 | 168.0 |
| C3    | 72.9 | 74.2 | 74.9 | 75.3 | 76.3 | 77.8 | 77.3 | 77.5 | 85.5 | 93.8 | 96.4  | 92.3 | 84.5 | 169.3 |
| 80    | 73.1 | 76.0 | 75.6 | 76.9 | 77.1 | 78.5 | 79.1 | 79.1 | 88.1 | 95.4 | 97.4  | 91.6 | 84.7 | 170.2 |
| 100   | 74.8 | 76.9 | 77.1 | 77.8 | 77.7 | 79.6 | 80.2 | 80.8 | 88.9 | 95.9 | 98.6  | 92.0 | 86.8 | 171.3 |
| 125   | 76.9 | 76.6 | 78.1 | 78.6 | 79.8 | 80.8 | 80.7 | 81.6 | 90.3 | 95.3 | 98.4  | 89.7 | 85.7 | 170.9 |
| 160   | 78.6 | 79.3 | 80.0 | 80.6 | 82.3 | 83.0 | 82.3 | 83.0 | 92.1 | 95.2 | 100.0 | 89.9 | 85.3 | 172.2 |
| 200   | 79.0 | 83.8 | 82.7 | 83.7 | 81.7 | 83.8 | 84.0 | 83.8 | 92.1 | 96.1 | 98.3  | 88.4 | 85.6 | 171.7 |
| 250   | 82.1 | 82.7 | 81.9 | 82.1 | 81.9 | 83.3 | 83.7 | 84.5 | 91.3 | 96.4 | 97.0  | 87.4 | 84.2 | 171.3 |
| 315   | 82.9 | 85.0 | 84.7 | 84.4 | 85.2 | 84.3 | 84.4 | 85.4 | 92.3 | 95.3 | 94.3  | 85.4 | 82.1 | 170.6 |
| 400   | 81.2 | 84.2 | 85.3 | 86.7 | 85.4 | 86.9 | 85.4 | 85.9 | 92.1 | 93.8 | 92.4  | 83.5 | 79.6 | 170.0 |
| 500   | 79.8 | 82.2 | 83.5 | 84.4 | 83.6 | 85.6 | 86.4 | 86.4 | 91.6 | 93.4 | 90.6  | 81.5 | 77.8 | 169.5 |
| 630   | 77.7 | 80.8 | 81.6 | 82.8 | 82.6 | 84.4 | 85.6 | 85.7 | 90.8 | 91.3 | 88.4  | 79.8 | 75.6 | 168.4 |
| 800   | 76.6 | 79.7 | 80.4 | 82.3 | 82.2 | 84.6 | 84.6 | 85.6 | 89.7 | 89.4 | 86.8  | 77.5 | 73.5 | 167.8 |
| 1000  | 76.4 | 79.8 | 80.2 | 81.8 | 81.5 | 83.5 | 84.2 | 84.3 | 88.1 | 87.8 | 84.8  | 77.2 | 72.1 | 167.2 |
| 1250  | 75.0 | 80.0 | 80.8 | 81.1 | 83.0 | 83.6 | 84.1 | 83.6 | 87.7 | 85.9 | 83.3  | 75.3 | 70.7 | 167.3 |
| 1600  | 74.1 | 78.4 | 80.3 | 81.9 | 81.6 | 83.3 | 82.5 | 81.6 | 86.2 | 83.7 | 81.7  | 73.7 | 68.1 | 167.2 |
| 2000  | 71.1 | 75.9 | 79.1 | 80.4 | 80.9 | 80.8 | 82.0 | 80.2 | 84.1 | 80.7 | 78.7  | 70.2 | 63.1 | 166.9 |
| 2500  | 67.1 | 73.2 | 75.6 | 78.5 | 77.9 | 79.4 | 79.7 | 77.4 | 80.7 | 77.4 | 74.6  | 66.9 | 56.8 | 166.8 |
| 3150  | 62.5 | 68.7 | 72.8 | 75.5 | 74.2 | 76.2 | 76.6 | 73.7 | 76.7 | 73.2 | 68.4  | 58.5 | 45.9 | 167.1 |
| 4000  | 52.3 | 60.5 | 65.9 | 67.8 | 68.2 | 69.9 | 69.4 | 66.9 | 70.3 | 65.7 | 59.6  | 46.1 | 26.7 | 166.9 |
| 5000  | 37.8 | 48.9 | 55.4 | 58.4 | 59.8 | 62.3 | 60.5 | 57.5 | 59.8 | 54.3 | 45.5  | 27.8 |      | 166.9 |
| 6300  | 16.2 | 30.4 | 43.0 | 42.5 | 43.6 | 47.6 | 45.5 | 41.8 | 43.9 | 39.8 | 24.6  | 0.3  |      | 168.2 |
| 8000  |      | 19.6 | 18.2 | 21.4 | 24.8 | 22.0 | 18.5 | 19.2 | 12.1 |      |       |      |      | 169.9 |
| 10000 |      |      |      |      |      |      |      |      |      |      |       |      |      | 171.6 |
| 12500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |       |      |      |       |

ORIGINAL PAGE IS  
OF POOR QUALITY

|       |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| DASPL | 90.4 | 93.0 | 93.5  | 94.5  | 94.3  | 95.6  | 95.8  | 95.9  | 102.2 | 105.8 | 107.5 | 100.1 | 95.0 | 183.2 |
| PNL   | 96.2 | 99.5 | 101.3 | 102.6 | 102.7 | 103.8 | 104.1 | 103.2 | 108.4 | 110.0 | 110.0 | 101.3 | 96.8 |       |
| PNLT  | 96.2 | 99.5 | 101.9 | 103.2 | 102.7 | 103.8 | 104.1 | 103.2 | 108.4 | 110.7 | 110.0 | 102.3 | 96.8 |       |
| DBA   | 85.8 | 89.2 | 90.3  | 91.6  | 91.6  | 93.0  | 93.2  | 93.0  | 97.8  | 98.5  | 97.4  | 88.5  | 84.5 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH421 TEST DATE = 11-30-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 65.10 PAMB HG = 29.45 RELHUM = 62.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1614.0 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2558.0 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7626 TAPE = X76261 TEST PT NO = 7626 NC = AE075 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7627 X7627C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.9 | 86.7  | 84.4  | 89.2  | 86.1  | 86.9  | 87.1  | 88.7  | 90.4  | 96.5  | 96.6  | 97.1  | 97.2  | 133.9 |
| 63    | 92.0 | 93.0  | 89.1  | 96.4  | 93.5  | 94.8  | 96.2  | 93.4  | 96.1  | 104.6 | 104.0 | 103.7 | 103.6 | 141.0 |
| 80    | 90.8 | 96.3  | 91.6  | 93.4  | 92.7  | 94.8  | 95.5  | 93.9  | 96.8  | 96.2  | 99.3  | 101.2 | 102.6 | 138.3 |
| 100   | 88.5 | 97.5  | 93.0  | 95.3  | 95.1  | 96.8  | 97.9  | 98.3  | 98.8  | 100.1 | 101.7 | 105.6 | 107.6 | 141.6 |
| 125   | 83.9 | 89.9  | 91.9  | 94.2  | 94.3  | 95.9  | 96.6  | 96.0  | 97.7  | 100.5 | 107.4 | 108.6 | 110.0 | 143.4 |
| 160   | 83.2 | 87.5  | 90.2  | 90.5  | 89.6  | 92.7  | 95.6  | 94.3  | 98.0  | 101.6 | 108.2 | 110.4 | 113.0 | 144.8 |
| 200   | 85.0 | 89.1  | 89.3  | 92.1  | 93.0  | 95.3  | 96.2  | 96.9  | 102.3 | 104.4 | 110.3 | 113.5 | 114.9 | 147.2 |
| 250   | 83.5 | 91.3  | 92.6  | 93.9  | 93.7  | 94.8  | 97.5  | 99.4  | 102.8 | 108.9 | 114.8 | 117.0 | 116.4 | 150.3 |
| 315   | 85.3 | 92.1  | 91.6  | 93.4  | 94.3  | 97.1  | 97.8  | 99.7  | 105.6 | 111.2 | 117.6 | 117.5 | 117.2 | 151.9 |
| 400   | 86.1 | 93.3  | 93.6  | 94.9  | 94.7  | 97.1  | 99.0  | 100.2 | 107.6 | 115.2 | 120.3 | 119.5 | 117.2 | 154.1 |
| 500   | 86.8 | 95.1  | 94.6  | 95.9  | 96.0  | 98.6  | 99.8  | 102.4 | 109.1 | 117.0 | 121.8 | 119.5 | 117.2 | 155.2 |
| 630   | 88.5 | 96.1  | 95.6  | 97.1  | 97.0  | 99.3  | 102.0 | 104.1 | 110.3 | 118.7 | 123.0 | 120.0 | 117.6 | 156.3 |
| 800   | 92.1 | 96.9  | 97.9  | 98.4  | 98.0  | 101.1 | 102.5 | 104.9 | 112.9 | 119.7 | 123.8 | 121.0 | 118.2 | 157.3 |
| 1000  | 95.5 | 103.0 | 101.1 | 101.8 | 100.2 | 102.6 | 103.9 | 106.3 | 113.3 | 119.9 | 124.3 | 120.4 | 117.3 | 157.5 |
| 1250  | 95.2 | 104.9 | 104.7 | 105.1 | 103.3 | 104.5 | 105.3 | 107.0 | 114.7 | 119.5 | 125.2 | 119.3 | 115.4 | 157.8 |
| 1600  | 96.6 | 103.0 | 102.6 | 103.3 | 102.8 | 104.6 | 106.5 | 108.3 | 115.6 | 119.7 | 124.8 | 118.0 | 114.0 | 157.6 |
| 2000  | 98.5 | 105.1 | 103.5 | 103.6 | 102.0 | 103.6 | 106.1 | 108.6 | 115.2 | 119.5 | 123.0 | 115.4 | 112.6 | 156.4 |
| 2500  | 97.7 | 104.0 | 104.0 | 104.5 | 103.4 | 105.0 | 106.7 | 109.3 | 114.7 | 120.2 | 121.2 | 114.5 | 110.1 | 155.8 |
| 3150  | 96.0 | 102.6 | 103.1 | 103.6 | 103.7 | 106.5 | 106.9 | 109.1 | 114.7 | 118.8 | 119.3 | 112.0 | 108.0 | 154.5 |
| 4000  | 94.7 | 100.6 | 101.2 | 102.3 | 102.8 | 105.5 | 106.6 | 109.2 | 114.3 | 117.0 | 118.3 | 110.8 | 106.3 | 153.5 |
| 5000  | 94.5 | 99.7  | 100.8 | 102.0 | 101.5 | 105.0 | 106.8 | 108.7 | 113.7 | 116.0 | 116.9 | 108.9 | 104.6 | 152.7 |
| 6300  | 94.2 | 99.0  | 100.1 | 102.1 | 102.0 | 105.2 | 106.7 | 108.1 | 113.4 | 115.1 | 115.6 | 108.1 | 104.1 | 152.2 |
| 8000  | 94.8 | 98.3  | 99.9  | 101.1 | 101.5 | 104.3 | 105.5 | 107.6 | 112.1 | 114.0 | 113.9 | 106.4 | 102.8 | 151.3 |
| 10000 | 95.2 | 97.7  | 99.5  | 101.8 | 101.9 | 104.2 | 106.2 | 106.9 | 110.6 | 112.3 | 113.7 | 106.1 | 102.1 | 151.1 |
| 12500 | 95.0 | 96.2  | 98.3  | 100.7 | 100.7 | 103.7 | 104.3 | 105.0 | 109.9 | 111.2 | 111.8 | 104.0 | 101.0 | 150.5 |
| 16000 | 93.7 | 94.9  | 96.4  | 99.4  | 99.4  | 102.1 | 103.7 | 103.4 | 107.8 | 109.0 | 109.5 | 102.7 | 98.4  | 150.0 |
| 20000 | 91.9 | 91.5  | 94.3  | 96.6  | 96.8  | 100.3 | 100.9 | 101.1 | 105.5 | 106.0 | 107.1 | 99.7  | 95.4  | 149.2 |
| 25000 | 90.0 | 90.0  | 92.0  | 93.8  | 94.9  | 97.5  | 98.7  | 98.0  | 102.3 | 102.8 | 103.0 | 97.7  | 92.7  | 148.5 |
| 31500 | 87.0 | 85.7  | 87.8  | 90.5  | 91.2  | 94.1  | 93.8  | 94.8  | 99.3  | 100.0 | 99.7  | 94.2  | 89.0  | 148.3 |
| 40000 | 83.2 | 81.0  | 85.4  | 86.0  | 87.1  | 90.2  | 90.0  | 90.3  | 95.7  | 97.7  | 96.5  | 91.1  | 83.3  | 149.0 |
| 50000 | 77.3 | 75.3  | 82.9  | 80.6  | 81.5  | 85.3  | 84.9  | 84.3  | 91.3  | 92.6  | 93.8  | 87.5  | 78.1  | 149.0 |
| 63000 | 72.4 | 69.8  | 81.5  | 74.7  | 76.7  | 80.0  | 78.8  | 80.5  | 86.5  | 89.5  | 89.0  | 83.1  | 71.6  | 150.1 |
| 80000 | 65.9 | 63.5  | 79.0  | 68.0  | 70.7  | 74.3  | 72.5  | 74.4  | 80.0  | 83.8  | 84.8  | 79.2  | 64.9  | 151.7 |

OASPL 107.8 113.6 113.5 114.6 114.1 116.5 117.9 119.7 125.5 130.1 133.7 129.7 127.5 168.1  
PNL 120.2 126.3 126.4 127.3 127.0 129.5 130.6 132.6 138.2 142.6 144.9 139.6 136.6  
PNLT 120.2 127.0 126.4 127.3 127.0 129.5 130.6 133.2 138.2 142.6 144.9 139.6 136.6  
DBA 107.1 113.7 113.5 114.2 113.6 115.9 117.4 119.5 125.5 130.1 133.5 128.4 125.3

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VERTICL = ADH403 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
1APLHA = SB59 IEGA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.2 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1527.2 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2573.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7627 TAPE = X7627C TEST PT NO = 7627 NC = AE074 CORR FAN SPEED = RPM

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OF POOR QUALITY

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7627 X7627F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 88.9 | 86.7  | 84.4  | 89.2  | 86.1  | 86.9  | 87.1  | 88.7  | 90.4  | 96.5  | 96.6  | 97.1  | 97.2  | 133.9 |
| 63    | 92.0 | 93.0  | 89.1  | 96.4  | 93.5  | 94.8  | 96.2  | 93.4  | 96.1  | 104.6 | 104.0 | 103.7 | 103.6 | 141.0 |
| 80    | 90.8 | 96.3  | 91.6  | 93.4  | 92.7  | 94.8  | 95.5  | 93.9  | 96.8  | 96.2  | 99.3  | 101.2 | 102.6 | 138.3 |
| 100   | 88.5 | 97.5  | 93.0  | 95.3  | 95.1  | 96.8  | 97.9  | 98.3  | 98.8  | 100.1 | 101.7 | 105.6 | 107.6 | 141.6 |
| 125   | 83.9 | 89.9  | 91.9  | 94.2  | 94.3  | 95.9  | 96.6  | 96.0  | 97.7  | 100.5 | 107.4 | 108.6 | 110.0 | 143.4 |
| 160   | 83.2 | 87.5  | 90.2  | 90.5  | 89.6  | 92.7  | 95.6  | 94.3  | 98.0  | 101.6 | 108.2 | 110.4 | 113.0 | 144.8 |
| 200   | 85.0 | 89.1  | 89.3  | 92.1  | 93.0  | 95.3  | 96.2  | 96.9  | 102.3 | 104.4 | 110.3 | 113.5 | 114.9 | 147.2 |
| 250   | 83.5 | 91.3  | 92.6  | 93.9  | 93.7  | 94.8  | 97.5  | 99.4  | 102.8 | 106.9 | 114.8 | 117.0 | 116.4 | 150.3 |
| 315   | 85.3 | 92.1  | 91.6  | 93.4  | 94.3  | 97.1  | 97.8  | 99.7  | 105.6 | 111.2 | 117.6 | 117.5 | 117.2 | 151.9 |
| 400   | 86.1 | 93.3  | 93.6  | 94.9  | 94.7  | 97.1  | 99.0  | 100.2 | 107.6 | 115.2 | 120.3 | 119.5 | 117.2 | 154.1 |
| 500   | 86.8 | 95.1  | 94.6  | 95.9  | 96.0  | 98.6  | 99.8  | 102.4 | 109.1 | 117.0 | 121.8 | 119.5 | 117.2 | 155.2 |
| 630   | 88.5 | 96.1  | 95.6  | 97.1  | 97.0  | 99.3  | 102.0 | 104.1 | 110.3 | 118.7 | 123.0 | 120.0 | 117.6 | 156.3 |
| 800   | 92.1 | 96.9  | 97.9  | 98.4  | 98.0  | 101.1 | 102.5 | 104.9 | 112.9 | 119.7 | 123.8 | 121.0 | 118.2 | 157.3 |
| 1000  | 95.5 | 103.0 | 101.1 | 101.8 | 100.2 | 102.6 | 103.9 | 106.3 | 113.3 | 119.9 | 124.3 | 120.4 | 117.3 | 157.5 |
| 1250  | 95.2 | 104.9 | 104.7 | 105.1 | 103.3 | 104.5 | 105.3 | 107.0 | 114.7 | 119.5 | 125.2 | 119.3 | 115.4 | 157.8 |
| 1600  | 96.6 | 103.0 | 102.6 | 103.3 | 102.8 | 104.6 | 106.5 | 108.3 | 115.6 | 119.7 | 124.8 | 118.0 | 114.0 | 157.6 |
| 2000  | 98.5 | 105.1 | 103.5 | 103.6 | 102.0 | 103.6 | 106.1 | 108.6 | 115.2 | 119.5 | 123.0 | 115.4 | 112.6 | 156.4 |
| 2500  | 97.7 | 104.0 | 104.0 | 104.5 | 103.4 | 105.0 | 106.7 | 109.3 | 114.7 | 120.2 | 121.2 | 114.5 | 110.1 | 155.8 |
| 3150  | 96.0 | 102.6 | 103.1 | 103.6 | 103.7 | 106.5 | 106.9 | 109.1 | 114.7 | 118.8 | 119.3 | 112.0 | 108.0 | 154.5 |
| 4000  | 94.7 | 100.6 | 101.2 | 102.3 | 102.8 | 105.5 | 106.6 | 109.2 | 114.3 | 117.0 | 118.3 | 110.8 | 106.3 | 153.5 |
| 5000  | 94.5 | 99.7  | 100.8 | 102.0 | 101.5 | 105.0 | 106.8 | 108.7 | 113.7 | 116.0 | 116.9 | 108.9 | 104.6 | 152.7 |
| 6300  | 94.2 | 99.0  | 100.1 | 102.1 | 102.0 | 105.2 | 106.7 | 108.1 | 113.4 | 115.1 | 115.6 | 108.1 | 104.1 | 152.2 |
| 8000  | 94.8 | 98.3  | 99.9  | 101.1 | 101.5 | 104.3 | 105.5 | 107.6 | 112.1 | 114.0 | 113.9 | 106.4 | 102.8 | 151.3 |
| 10000 | 95.2 | 97.7  | 99.5  | 101.8 | 101.9 | 104.2 | 106.2 | 106.9 | 110.6 | 112.3 | 113.7 | 106.1 | 102.1 | 151.1 |
| 12500 | 95.0 | 96.2  | 98.3  | 100.7 | 100.7 | 103.7 | 104.3 | 105.0 | 109.9 | 111.2 | 111.8 | 104.0 | 101.0 | 150.5 |
| 16000 | 93.7 | 94.8  | 96.4  | 99.4  | 99.4  | 102.1 | 103.7 | 103.4 | 107.8 | 109.0 | 109.5 | 102.7 | 98.4  | 150.0 |
| 20000 | 91.9 | 91.5  | 94.3  | 96.6  | 96.8  | 100.3 | 100.9 | 101.1 | 105.5 | 106.0 | 107.1 | 99.7  | 95.4  | 149.2 |
| 25000 | 90.0 | 90.0  | 92.0  | 93.8  | 94.9  | 97.5  | 98.7  | 98.0  | 102.3 | 102.8 | 103.0 | 97.7  | 92.7  | 148.5 |
| 31500 | 87.0 | 85.7  | 87.8  | 90.5  | 91.2  | 94.1  | 93.8  | 94.9  | 99.3  | 100.0 | 99.7  | 94.2  | 89.0  | 148.3 |
| 40000 | 83.2 | 81.0  | 85.4  | 86.0  | 87.1  | 90.2  | 90.0  | 90.3  | 95.7  | 97.7  | 96.5  | 91.1  | 83.3  | 149.0 |
| 50000 | 77.3 | 75.3  | 82.9  | 80.6  | 81.5  | 85.3  | 84.9  | 84.3  | 91.3  | 92.6  | 93.8  | 87.5  | 78.1  | 149.0 |
| 63000 | 72.4 | 69.8  | 81.5  | 74.7  | 76.7  | 80.0  | 78.8  | 80.5  | 86.5  | 89.5  | 89.0  | 83.1  | 71.6  | 150.1 |
| 80000 | 65.9 | 63.5  | 79.0  | 68.0  | 70.7  | 74.3  | 72.5  | 74.4  | 80.0  | 83.8  | 84.8  | 79.2  | 64.9  | 151.7 |

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OASPL 107.8 113.6 113.5 114.6 114.1 116.5 117.9 119.7 125.5 130.1 133.7 129.7 127.5 168.1  
 PNL 120.2 126.3 126.4 127.3 127.0 129.5 130.6 132.6 138.2 142.6 144.9 139.6 136.6  
 PNLT 120.2 127.0 126.4 127.3 127.0 129.5 130.6 133.2 138.2 142.6 144.9 139.6 136.6  
 DBA 188.1 185.7 199.8 190.4 192.7 196.2 194.7 196.3 202.1 205.5 206.2 200.4 187.4

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICLE = ADH403 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1527.2 FPS AE9 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2573.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7627 TAPE = X7627F TEST PT NO = 7627 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-7627 X76271

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 64.8 | 73.6 | 74.9 | 76.9  | 77.2  | 79.7  | 81.4  | 82.2  | 88.9  | 95.4  | 99.0  | 96.0  | 90.3 | 172.3 |
| 63    | 65.5 | 75.3 | 75.9 | 77.9  | 78.4  | 81.2  | 82.2  | 84.4  | 90.4  | 97.2  | 100.5 | 96.0  | 90.3 | 173.3 |
| 80    | 67.2 | 76.2 | 76.8 | 79.1  | 79.3  | 81.8  | 84.3  | 86.1  | 91.6  | 98.8  | 101.7 | 96.4  | 90.6 | 174.4 |
| 100   | 70.6 | 77.0 | 79.1 | 80.3  | 80.3  | 83.6  | 84.8  | 86.8  | 94.1  | 99.8  | 102.4 | 97.3  | 91.0 | 175.4 |
| 125   | 73.9 | 83.0 | 82.2 | 83.7  | 82.4  | 84.9  | 86.2  | 88.2  | 94.4  | 99.9  | 102.7 | 96.6  | 90.0 | 175.6 |
| 160   | 73.4 | 84.8 | 85.7 | 86.8  | 85.5  | 86.7  | 87.5  | 88.7  | 95.7  | 99.4  | 103.4 | 95.2  | 87.6 | 176.0 |
| 200   | 74.6 | 82.6 | 83.4 | 84.8  | 84.7  | 86.8  | 86.4  | 89.8  | 96.4  | 99.4  | 102.8 | 93.6  | 85.8 | 175.7 |
| 250   | 76.2 | 84.4 | 84.0 | 84.9  | 83.7  | 85.5  | 87.8  | 89.9  | 95.8  | 98.9  | 100.7 | 90.5  | 83.7 | 174.5 |
| 315   | 74.9 | 83.0 | 84.3 | 85.6  | 84.9  | 86.7  | 88.2  | 90.4  | 94.9  | 99.2  | 98.5  | 89.1  | 80.4 | 173.9 |
| 400   | 72.8 | 81.2 | 83.0 | 84.4  | 84.9  | 87.9  | 88.1  | 89.9  | 94.6  | 97.4  | 96.0  | 85.9  | 77.3 | 172.7 |
| 500   | 71.0 | 78.8 | 80.7 | 82.8  | 83.7  | 86.6  | 87.6  | 89.6  | 93.9  | 95.3  | 94.5  | 84.1  | 74.7 | 171.7 |
| 630   | 70.3 | 77.5 | 80.1 | 82.1  | 82.2  | 85.8  | 87.5  | 88.8  | 92.9  | 93.9  | 92.6  | 81.5  | 71.9 | 170.8 |
| 800   | 69.5 | 76.5 | 79.0 | 82.0  | 82.4  | 85.8  | 87.1  | 88.0  | 92.3  | 92.5  | 90.9  | 80.0  | 70.2 | 170.3 |
| 1000  | 69.6 | 75.5 | 78.6 | 80.8  | 81.8  | 84.8  | 85.8  | 87.3  | 90.8  | 91.1  | 88.8  | 77.6  | 67.7 | 169.5 |
| 1250  | 69.5 | 74.6 | 78.0 | 81.4  | 82.1  | 84.5  | 86.3  | 86.5  | 89.1  | 89.1  | 88.0  | 76.5  | 65.6 | 169.2 |
| 1600  | 68.4 | 72.4 | 76.3 | 79.9  | 80.6  | 83.8  | 84.1  | 84.2  | 87.9  | 87.4  | 85.2  | 73.0  | 62.1 | 168.7 |
| 2000  | 66.2 | 70.6 | 74.0 | 78.3  | 79.1  | 82.1  | 83.4  | 82.3  | 85.4  | 84.6  | 82.0  | 70.1  | 56.6 | 168.1 |
| 2500  | 62.6 | 65.9 | 71.1 | 74.9  | 75.9  | 79.7  | 80.0  | 79.4  | 82.3  | 80.4  | 77.8  | 64.4  | 48.6 | 167.3 |
| 3150  | 57.3 | 61.9 | 66.9 | 70.6  | 72.7  | 75.6  | 76.4  | 74.7  | 77.2  | 74.7  | 70.3  | 57.4  | 37.5 | 166.6 |
| 4000  | 48.1 | 53.0 | 58.9 | 63.9  | 66.0  | 69.3  | 68.6  | 68.4  | 70.4  | 67.3  | 60.8  | 44.9  | 19.3 | 166.5 |
| 5000  | 34.5 | 40.6 | 50.3 | 54.0  | 56.9  | 60.6  | 59.8  | 58.4  | 60.6  | 57.4  | 47.9  | 28.1  |      | 167.1 |
| 6300  | 10.8 | 20.8 | 35.7 | 37.8  | 41.2  | 45.8  | 44.6  | 41.5  | 44.1  | 38.0  | 27.3  | 0.4   |      | 167.1 |
| 8000  |      |      | 13.0 | 12.8  | 18.3  | 22.7  | 20.4  | 18.5  | 17.9  | 10.1  |       |       |      | 168.2 |
| 10000 |      |      |      |       |       |       |       |       |       |       |       |       |      | 169.9 |
| 12500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |      |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 84.0 | 92.4 | 93.4 | 95.1  | 95.0  | 97.5  | 98.6  | 100.2 | 105.5 | 109.3 | 111.5 | 104.9 | 98.4 | 186.0 |
| PNL   | 89.6 | 97.1 | 99.0 | 101.6 | 102.1 | 105.0 | 106.2 | 106.5 | 111.0 | 113.5 | 114.1 | 105.0 |      | 97.3  |
| PNLT  | 90.8 | 97.1 | 99.0 | 101.6 | 102.1 | 105.0 | 106.7 | 106.5 | 111.5 | 114.5 | 114.1 | 106.2 |      | 97.3  |
| DBA   | 79.0 | 85.8 | 88.1 | 90.6  | 91.1  | 94.0  | 95.2  | 96.1  | 100.2 | 101.6 | 101.4 | 91.7  |      | 83.6  |

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OF POOR QUALITY

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH403 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 1APLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 46.30 PAMB HG = 29.26 RELHUM = 69.2 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1527.2 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2573.1 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7627 TAPE = X76271 TEST PT NO = 7627 NC = AE074 CORR FAN SPEED = RPM

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-ZER-7629 X7629C  
BACKGROUND

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.1  | 86.9  | 85.4  | 87.7  | 87.6  | 87.4  | 89.1  | 88.5  | 90.9  | 95.2  | 96.1  | 97.1  | 97.5  | 133.7 |
| 63    | 92.3  | 91.8  | 89.8  | 93.9  | 94.7  | 95.6  | 98.0  | 91.9  | 96.3  | 103.1 | 102.8 | 103.0 | 103.1 | 140.3 |
| 80    | 92.3  | 96.8  | 90.8  | 93.9  | 93.5  | 96.1  | 96.2  | 94.4  | 97.3  | 97.2  | 100.5 | 101.7 | 103.1 | 139.1 |
| 100   | 91.0  | 97.5  | 92.8  | 95.5  | 95.6  | 97.5  | 98.6  | 98.5  | 99.5  | 100.6 | 102.5 | 106.1 | 108.1 | 142.1 |
| 125   | 87.1  | 90.4  | 92.4  | 95.7  | 95.3  | 96.7  | 97.3  | 96.5  | 98.4  | 101.3 | 108.4 | 109.6 | 111.0 | 144.3 |
| 160   | 86.2  | 88.5  | 90.2  | 91.8  | 90.1  | 93.5  | 95.9  | 95.0  | 98.7  | 102.3 | 108.9 | 110.9 | 114.0 | 145.6 |
| 200   | 90.8  | 89.8  | 89.8  | 93.1  | 93.7  | 96.1  | 97.0  | 97.6  | 103.3 | 104.6 | 110.8 | 114.2 | 115.9 | 148.0 |
| 250   | 89.0  | 92.1  | 92.1  | 94.9  | 94.2  | 95.6  | 97.7  | 100.1 | 104.1 | 109.6 | 116.3 | 118.0 | 117.1 | 151.4 |
| 315   | 89.6  | 93.4  | 92.1  | 93.7  | 95.0  | 97.9  | 99.0  | 100.2 | 106.9 | 111.7 | 117.8 | 118.5 | 117.9 | 152.6 |
| 400   | 92.1  | 94.1  | 93.4  | 95.2  | 95.0  | 97.1  | 100.0 | 100.9 | 108.4 | 115.4 | 120.8 | 120.5 | 117.9 | 154.8 |
| 500   | 93.1  | 95.4  | 94.6  | 96.2  | 96.8  | 99.1  | 100.8 | 103.2 | 110.1 | 118.0 | 122.1 | 120.3 | 117.4 | 155.7 |
| 630   | 94.0  | 96.8  | 95.3  | 97.9  | 97.5  | 100.3 | 102.7 | 104.4 | 111.1 | 119.7 | 123.5 | 121.0 | 118.4 | 157.0 |
| 800   | 97.3  | 97.9  | 97.6  | 99.2  | 98.3  | 101.1 | 103.0 | 105.2 | 113.1 | 120.7 | 124.3 | 122.0 | 118.4 | 157.9 |
| 1000  | 101.0 | 103.8 | 101.6 | 102.3 | 100.9 | 103.1 | 104.4 | 105.6 | 113.6 | 120.9 | 124.8 | 121.4 | 117.6 | 158.1 |
| 1250  | 100.2 | 105.7 | 105.2 | 104.9 | 103.8 | 105.5 | 105.6 | 108.3 | 114.7 | 120.5 | 124.9 | 119.6 | 115.4 | 158.0 |
| 1600  | 101.3 | 103.5 | 102.9 | 103.5 | 102.8 | 105.1 | 107.0 | 108.8 | 116.1 | 120.2 | 124.8 | 119.0 | 114.0 | 157.9 |
| 2000  | 102.8 | 104.3 | 103.5 | 103.6 | 102.5 | 104.1 | 106.6 | 109.4 | 115.7 | 120.5 | 123.5 | 116.1 | 112.4 | 157.0 |
| 2500  | 100.9 | 103.7 | 103.3 | 104.3 | 103.6 | 104.8 | 106.9 | 109.6 | 114.9 | 120.7 | 121.7 | 115.0 | 110.8 | 156.2 |
| 3150  | 98.8  | 102.6 | 102.9 | 103.6 | 103.7 | 106.0 | 107.4 | 109.4 | 115.5 | 119.5 | 119.6 | 113.0 | 108.2 | 155.0 |
| 4000  | 97.2  | 101.3 | 101.7 | 102.6 | 102.5 | 105.2 | 107.4 | 109.7 | 114.6 | 117.5 | 119.0 | 112.1 | 107.3 | 154.1 |
| 5000  | 95.3  | 100.4 | 101.3 | 102.7 | 102.0 | 105.2 | 106.8 | 109.2 | 114.2 | 117.0 | 117.1 | 110.1 | 104.9 | 153.2 |
| 6300  | 94.7  | 99.5  | 100.8 | 102.9 | 102.7 | 105.2 | 106.7 | 108.9 | 113.2 | 115.6 | 116.3 | 108.8 | 103.6 | 152.6 |
| 8000  | 93.5  | 99.8  | 100.7 | 102.1 | 102.5 | 104.6 | 106.5 | 108.4 | 112.4 | 114.2 | 114.9 | 106.9 | 102.5 | 151.9 |
| 10000 | 92.7  | 98.7  | 100.3 | 102.6 | 103.2 | 105.2 | 106.4 | 107.9 | 111.1 | 113.0 | 113.9 | 106.6 | 102.6 | 151.6 |
| 12500 | 91.2  | 97.7  | 99.8  | 101.4 | 102.2 | 104.9 | 105.0 | 105.7 | 110.1 | 111.7 | 112.5 | 104.7 | 100.9 | 151.2 |
| 16000 | 89.2  | 96.2  | 97.8  | 101.1 | 100.7 | 102.9 | 104.2 | 104.1 | 108.2 | 109.5 | 110.5 | 103.4 | 98.9  | 150.7 |
| 20000 | 86.6  | 92.9  | 96.0  | 97.8  | 98.3  | 101.5 | 102.4 | 101.5 | 105.4 | 106.7 | 107.8 | 101.2 | 95.6  | 149.9 |
| 25000 | 83.4  | 90.4  | 94.2  | 95.0  | 96.1  | 98.7  | 99.6  | 98.4  | 102.7 | 103.7 | 101.5 | 98.4  | 92.6  | 148.9 |
| 31500 | 79.7  | 86.4  | 90.4  | 91.6  | 91.7  | 95.3  | 95.0  | 95.1  | 99.7  | 101.7 | 98.4  | 95.6  | 88.7  | 149.0 |
| 40000 | 75.3  | 81.8  | 89.1  | 86.6  | 87.7  | 91.4  | 90.9  | 91.2  | 96.1  | 99.1  | 95.2  | 92.0  | 83.7  | 149.7 |
| 50000 | 68.9  | 76.2  | 86.5  | 81.4  | 82.1  | 86.2  | 84.8  | 85.4  | 90.9  | 93.7  | 90.7  | 87.4  | 78.5  | 148.9 |
| 63000 | 64.0  | 70.4  | 85.1  | 76.1  | 77.6  | 81.1  | 79.5  | 80.9  | 87.8  | 89.8  | 85.4  | 83.2  | 71.5  | 150.3 |
| 80000 | 56.3  | 63.6  | 82.4  | 69.6  | 71.6  | 75.1  | 73.1  | 74.2  | 81.6  | 85.8  | 80.2  | 78.0  | 64.2  | 152.4 |

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CASPL 110.6 114.0 113.9 115.0 114.7 116.9 118.4 120.3 125.9 130.9 134.1 130.6 128.0 168.6  
PNL 123.2 126.5 126.4 127.5 127.3 129.5 131.1 133.2 138.8 143.2 145.3 140.3 136.9  
PNLT 123.8 127.1 126.4 127.5 127.3 129.5 131.1 133.7 138.8 143.2 145.3 140.3 136.9  
DBA 110.7 113.9 113.6 114.5 113.9 116.1 117.8 120.0 125.9 130.8 133.8 129.3 125.6

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VERTCL = ADH409 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 45.40 PAMB HG = 29.27 RELHUM = 71.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FRNT1 = LBS XNL = RPM XNH = RPM V8 = 1542.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2624.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7629 TAPE = X7629C TEST PT NO = 7629 NC = AE074 CORR FAN SPEED = RPM

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-ZER-7629 X7629F

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 50    | 87.1  | 86.9  | 85.4  | 87.7  | 87.6  | 87.4  | 89.1  | 88.5  | 90.9  | 95.2  | 96.1  | 97.1  | 97.5  | 133.7 |
| 63    | 92.3  | 91.8  | 89.8  | 93.9  | 94.7  | 95.6  | 98.0  | 91.9  | 96.3  | 103.1 | 102.8 | 103.0 | 103.1 | 140.3 |
| 80    | 92.3  | 96.8  | 90.8  | 93.9  | 93.5  | 96.1  | 96.2  | 94.4  | 97.3  | 97.2  | 100.5 | 101.7 | 103.1 | 139.1 |
| 100   | 91.0  | 97.5  | 92.8  | 95.5  | 95.6  | 97.5  | 98.6  | 98.5  | 99.5  | 100.6 | 102.5 | 106.1 | 108.1 | 142.1 |
| 125   | 87.1  | 90.4  | 92.4  | 95.7  | 95.3  | 96.7  | 97.3  | 96.5  | 98.4  | 101.3 | 108.4 | 109.6 | 111.0 | 144.3 |
| 160   | 86.2  | 88.5  | 90.2  | 91.8  | 90.1  | 93.5  | 95.9  | 95.0  | 98.7  | 102.3 | 108.9 | 110.9 | 114.0 | 145.6 |
| 200   | 90.8  | 89.8  | 89.8  | 93.1  | 93.7  | 96.1  | 97.0  | 97.6  | 103.3 | 104.6 | 110.8 | 114.2 | 115.9 | 148.0 |
| 250   | 89.0  | 92.1  | 92.1  | 94.9  | 94.2  | 95.6  | 97.7  | 100.1 | 104.1 | 109.6 | 116.3 | 118.0 | 117.1 | 151.4 |
| 315   | 89.6  | 93.4  | 92.1  | 93.7  | 95.0  | 97.9  | 99.0  | 100.2 | 106.9 | 111.7 | 117.8 | 118.5 | 117.9 | 152.6 |
| 400   | 92.1  | 94.1  | 93.4  | 95.2  | 95.0  | 97.1  | 100.0 | 100.9 | 108.4 | 115.4 | 120.8 | 120.5 | 117.9 | 154.8 |
| 500   | 93.1  | 95.4  | 94.6  | 96.2  | 96.8  | 99.1  | 100.8 | 103.2 | 110.1 | 118.0 | 122.1 | 120.3 | 117.4 | 155.7 |
| 630   | 94.0  | 96.8  | 95.8  | 97.9  | 97.5  | 100.3 | 102.7 | 104.4 | 111.1 | 119.7 | 123.5 | 121.0 | 118.4 | 157.0 |
| 800   | 97.3  | 97.9  | 97.6  | 99.2  | 98.3  | 101.1 | 103.0 | 105.2 | 113.1 | 120.7 | 124.3 | 122.0 | 118.4 | 157.9 |
| 1000  | 101.0 | 103.8 | 101.6 | 102.3 | 100.9 | 103.1 | 104.4 | 106.6 | 113.6 | 120.9 | 124.8 | 121.4 | 117.6 | 158.1 |
| 1250  | 100.2 | 105.7 | 105.2 | 104.9 | 103.8 | 105.5 | 105.6 | 108.3 | 114.7 | 120.5 | 124.9 | 119.6 | 115.4 | 158.0 |
| 1600  | 101.3 | 103.5 | 102.9 | 103.5 | 102.8 | 105.1 | 107.0 | 108.8 | 116.1 | 120.2 | 124.8 | 119.0 | 114.0 | 157.9 |
| 2000  | 102.8 | 104.3 | 103.5 | 103.6 | 102.5 | 104.1 | 106.6 | 109.4 | 115.7 | 120.5 | 123.5 | 116.1 | 112.4 | 157.0 |
| 2500  | 100.9 | 103.7 | 103.3 | 104.3 | 103.6 | 104.8 | 106.9 | 109.6 | 114.9 | 120.7 | 121.7 | 115.0 | 110.8 | 156.2 |
| 3150  | 98.8  | 102.6 | 102.9 | 103.6 | 103.7 | 106.0 | 107.4 | 109.4 | 115.5 | 119.5 | 119.6 | 113.0 | 108.2 | 155.0 |
| 4000  | 97.2  | 101.3 | 101.7 | 102.6 | 102.5 | 105.2 | 107.4 | 109.7 | 114.6 | 117.5 | 119.0 | 112.1 | 107.3 | 154.1 |
| 5000  | 95.3  | 100.4 | 101.3 | 102.7 | 102.0 | 105.2 | 106.8 | 109.2 | 114.2 | 117.0 | 117.1 | 110.1 | 104.9 | 153.2 |
| 6300  | 94.7  | 99.5  | 100.8 | 102.9 | 102.7 | 105.2 | 106.7 | 108.9 | 113.2 | 115.6 | 116.3 | 108.8 | 103.6 | 152.6 |
| 8000  | 93.5  | 99.8  | 100.7 | 102.1 | 102.5 | 104.6 | 106.5 | 108.4 | 112.4 | 114.2 | 114.9 | 106.9 | 102.5 | 151.9 |
| 10000 | 92.7  | 98.7  | 100.3 | 102.6 | 103.2 | 105.2 | 106.4 | 107.9 | 111.1 | 113.0 | 113.9 | 106.6 | 102.6 | 151.6 |
| 12500 | 91.2  | 97.7  | 99.8  | 101.4 | 102.2 | 104.9 | 105.0 | 105.7 | 110.1 | 111.7 | 112.5 | 104.7 | 100.9 | 151.2 |
| 16000 | 89.2  | 96.2  | 97.8  | 101.1 | 100.7 | 102.9 | 104.2 | 104.1 | 108.2 | 109.5 | 110.5 | 103.4 | 98.9  | 150.7 |
| 20000 | 86.6  | 92.9  | 96.0  | 97.8  | 98.3  | 101.5 | 102.4 | 101.5 | 105.4 | 106.7 | 107.8 | 101.2 | 95.6  | 149.9 |
| 25000 | 83.4  | 90.4  | 94.2  | 95.0  | 96.1  | 98.7  | 99.6  | 98.4  | 102.7 | 103.7 | 101.5 | 98.4  | 92.6  | 148.9 |
| 31500 | 79.7  | 86.4  | 90.4  | 91.6  | 91.7  | 95.3  | 95.0  | 95.1  | 99.7  | 101.7 | 98.4  | 95.6  | 88.7  | 149.0 |
| 40000 | 75.3  | 81.8  | 89.1  | 86.6  | 87.7  | 91.4  | 90.9  | 91.2  | 96.1  | 99.1  | 95.2  | 92.0  | 83.7  | 149.7 |
| 50000 | 68.9  | 76.2  | 86.5  | 81.4  | 82.1  | 86.2  | 84.8  | 85.4  | 90.9  | 93.7  | 90.7  | 87.4  | 78.5  | 148.9 |
| 63000 | 64.0  | 70.4  | 85.1  | 76.1  | 77.6  | 81.1  | 79.5  | 80.9  | 87.8  | 89.8  | 85.4  | 83.2  | 71.5  | 150.3 |
| 80000 | 56.3  | 63.6  | 82.4  | 69.6  | 71.6  | 75.1  | 73.1  | 74.2  | 81.6  | 85.8  | 80.2  | 78.0  | 64.2  | 152.4 |
| CASPL | 110.6 | 114.0 | 113.9 | 115.0 | 114.7 | 116.9 | 118.4 | 120.3 | 125.9 | 130.9 | 134.1 | 130.6 | 128.0 | 168.6 |
| PNL   | 123.2 | 126.5 | 126.4 | 127.5 | 127.3 | 129.5 | 131.1 | 133.2 | 138.8 | 143.2 | 145.3 | 140.3 | 136.9 |       |
| PNLT  | 123.8 | 127.1 | 126.4 | 127.5 | 127.3 | 129.5 | 131.1 | 133.7 | 138.8 | 143.2 | 145.3 | 140.3 | 136.9 |       |
| DBA   | 179.0 | 186.0 | 203.2 | 191.8 | 193.5 | 197.1 | 195.3 | 196.4 | 203.5 | 207.1 | 201.9 | 199.6 | 187.1 |       |

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MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 0. , DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH409 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
 IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 45.40 PAMB HG = 29.27 RELHUM = 71.1 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM V8 = 1542.7 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2624.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-ZER-7629 TAPE = X7629F TEST PT NO = 7629 NC = AE074 CORR FAN SPEED = RPM



FLIGHT TRANSFORMED, SCALED, AND EXTRAPOLATED SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 2400.0 FT. SL

IDENTIFICATION - 82F-ZER-7629 X76291

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160. | PWL   |
|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 50    | 70.8 | 74.3 | 74.7  | 77.2  | 77.4  | 79.7  | 82.4  | 82.9  | 89.7  | 95.7  | 99.5  | 97.0  | 91.1 | 172.9 |
| 63    | 71.8 | 75.6 | 75.9  | 78.2  | 79.2  | 81.7  | 83.2  | 85.2  | 91.4  | 98.2  | 100.8 | 96.7  | 90.5 | 173.9 |
| 80    | 72.7 | 77.0 | 77.1  | 79.8  | 79.8  | 82.8  | 85.1  | 86.3  | 92.3  | 99.8  | 102.2 | 97.4  | 91.4 | 175.2 |
| 100   | 75.9 | 78.0 | 78.8  | 81.1  | 80.6  | 83.6  | 85.3  | 87.1  | 94.3  | 100.8 | 102.9 | 98.3  | 91.3 | 176.1 |
| 125   | 79.4 | 83.8 | 82.7  | 84.2  | 83.2  | 85.4  | 86.7  | 88.4  | 94.7  | 100.9 | 103.2 | 97.6  | 90.2 | 176.3 |
| 160   | 78.4 | 85.5 | 85.2  | 86.6  | 86.0  | 87.7  | 87.7  | 90.0  | 95.7  | 100.4 | 103.1 | 95.5  | 87.6 | 176.1 |
| 200   | 79.3 | 83.1 | 83.7  | 85.1  | 84.7  | 87.3  | 88.9  | 90.3  | 96.9  | 99.9  | 102.8 | 94.6  | 85.8 | 176.0 |
| 250   | 80.4 | 83.7 | 84.0  | 84.9  | 84.2  | 86.0  | 88.3  | 90.7  | 96.3  | 99.9  | 101.2 | 91.2  | 83.5 | 175.1 |
| 315   | 78.1 | 82.7 | 83.5  | 85.3  | 85.2  | 86.4  | 88.5  | 90.6  | 95.2  | 99.7  | 99.0  | 89.6  | 81.1 | 174.3 |
| 400   | 75.5 | 81.2 | 82.8  | 84.4  | 84.9  | 87.4  | 88.6  | 90.1  | 95.4  | 98.2  | 96.3  | 86.9  | 77.5 | 173.2 |
| 500   | 73.5 | 79.5 | 81.2  | 83.0  | 83.5  | 86.3  | 88.3  | 90.1  | 94.1  | 95.8  | 95.3  | 85.4  | 75.7 | 172.2 |
| 630   | 71.1 | 78.3 | 80.6  | 82.9  | 82.7  | 86.0  | 87.5  | 89.3  | 93.4  | 94.9  | 92.9  | 82.7  | 72.1 | 171.4 |
| 800   | 70.0 | 77.0 | 79.7  | 82.8  | 83.1  | 85.8  | 87.1  | 88.9  | 92.1  | 93.0  | 91.6  | 80.7  | 69.7 | 170.7 |
| 1000  | 68.4 | 77.0 | 79.4  | 81.8  | 82.8  | 85.0  | 86.8  | 88.1  | 91.1  | 91.4  | 89.8  | 78.1  | 67.5 | 170.0 |
| 1250  | 67.0 | 75.6 | 78.7  | 82.1  | 83.3  | 85.5  | 86.6  | 87.5  | 89.6  | 89.9  | 88.2  | 77.0  | 66.1 | 169.8 |
| 1500  | 64.7 | 73.9 | 77.8  | 80.6  | 82.1  | 85.0  | 84.9  | 84.9  | 88.2  | 87.9  | 86.0  | 73.8  | 62.1 | 169.3 |
| 2000  | 61.7 | 71.8 | 75.5  | 80.1  | 80.4  | 82.8  | 83.9  | 83.1  | 85.9  | 85.1  | 83.0  | 70.9  | 57.1 | 168.8 |
| 2500  | 57.3 | 67.3 | 72.8  | 76.1  | 77.4  | 80.9  | 81.5  | 79.8  | 82.2  | 81.1  | 78.5  | 65.8  | 48.8 | 168.1 |
| 3150  | 50.8 | 62.4 | 69.1  | 71.8  | 73.9  | 76.8  | 77.4  | 75.2  | 77.6  | 75.7  | 68.8  | 58.1  | 37.5 | 167.1 |
| 4000  | 40.8 | 53.7 | 61.5  | 65.1  | 66.5  | 70.5  | 69.8  | 68.6  | 70.8  | 68.9  | 59.5  | 46.4  | 19.0 | 167.1 |
| 5000  | 26.6 | 41.5 | 54.0  | 54.7  | 57.5  | 61.7  | 60.7  | 59.3  | 61.0  | 58.8  | 46.5  | 29.0  |      | 167.8 |
| 6300  | 2.5  | 21.7 | 39.3  | 38.7  | 41.8  | 45.6  | 44.5  | 42.7  | 43.7  | 39.2  | 24.2  | 0.3   |      | 167.1 |
| 8000  |      |      | 16.6  | 14.1  | 19.2  | 23.8  | 21.0  | 18.9  | 19.3  | 10.5  |       |       |      | 168.5 |
| 10000 |      |      |       |       |       |       |       |       |       |       |       |       |      | 170.5 |
| 12500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 16000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 20000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 25000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 31500 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 40000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 50000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 63000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| 80000 |      |      |       |       |       |       |       |       |       |       |       |       |      |       |
| GASPL | 87.8 | 92.7 | 93.7  | 95.4  | 95.5  | 97.8  | 99.3  | 100.8 | 105.9 | 110.1 | 111.8 | 105.8 | 98.8 | 186.5 |
| PNL   | 91.7 | 97.3 | 99.6  | 102.6 | 103.0 | 105.7 | 106.8 | 107.1 | 111.5 | 114.1 | 114.3 | 105.9 | 97.6 |       |
| PNLT  | 92.8 | 97.3 | 100.1 | 102.6 | 103.0 | 105.7 | 106.8 | 107.1 | 111.5 | 115.2 | 115.4 | 107.2 | 97.6 |       |
| DBA   | 80.0 | 86.4 | 88.7  | 91.3  | 91.9  | 94.5  | 95.7  | 96.7  | 100.5 | 102.3 | 101.8 | 92.5  | 83.8 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH409 TEST DATE = 11-29-82 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 0. FPS  
IAPLHA = SB59 IECA = NO PWL AREA = FULL SPHERE TAMB F = 45.40 PAMB HG = 29.27 RELHUM = 71.1 PCT  
WIND DIR = DEG WIND VEL = MPH EXT DIST = 2400.0 FT EXT CONFIG = SL MIKE HT = NBFR =

FNIN1 = LBS XNL = RPM XNH = RPM VB = 1542.7 FPS AE8 = 3.4 SQ IN  
FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2624.9 FPS AE18 = 18.0 SQ IN

RUMPT = 82F-ZER-7629 TAPE = X76291 TEST PT NO = 7629 NC = AE074 CORR FAN SPEED = RPM

ORIGINAL DATA IS  
OF POOR QUALITY

UNTRANSFORMED MODEL SOUND PRESSURE LEVELS CORRECTED FOR BACKGROUND NOISE  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - MODEL 82F-400-7630 X7630C  
BACKGROUND 82F-400-0100 X01000

## ANGLES MEASURED FROM INLET, DEGREES

|                                                             | 40.      | 50.   | 60.       | 70.   | 80.        | 90.   | 100.     | 110.  | 120.           | 130.  | 140.      | 150.  | 160.             | PWL   |
|-------------------------------------------------------------|----------|-------|-----------|-------|------------|-------|----------|-------|----------------|-------|-----------|-------|------------------|-------|
| FREQ                                                        |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
| 50                                                          | 90.1     | 89.9  | 83.9      | 85.0  | 83.8       | 84.2  | 85.1     | 88.2  | 89.9           | 89.2  | 97.1      | 94.8  | 99.2             | 132.9 |
| 63                                                          | 91.0     | 93.3  | 89.3      | 90.6  | 90.4       | 91.1  | 92.9     | 93.1  | 95.6           | 94.9  | 103.0     | 96.2  | 100.6            | 137.4 |
| 80                                                          | 92.3     | 96.8  | 90.6      | 93.1  | 93.0       | 95.1  | 95.0     | 93.4  | 96.3           | 96.4  | 98.5      | 100.2 | 103.4            | 138.2 |
| 100                                                         | 90.5     | 95.7  | 91.0      | 92.8  | 93.6       | 94.8  | 95.6     | 96.3  | 97.5           | 97.6  | 99.7      | 103.9 | 106.8            | 139.9 |
| 125                                                         | 88.1     | 91.7  | 92.2      | 94.2  | 94.3       | 95.4  | 95.3     | 94.7  | 96.2           | 98.8  | 105.1     | 107.8 | 110.0            | 142.5 |
| 160                                                         | 86.4     | 86.2  | 89.0      | 89.0  | 88.1       | 90.2  | 92.1     | 91.3  | 95.5           | 99.3  | 106.2     | 108.6 | 112.5            | 143.4 |
| 200                                                         | 87.8     | 88.3  | 86.3      | 88.1  | 88.7       | 91.3  | 92.7     | 94.9  | 99.8           | 100.4 | 106.5     | 111.0 | 113.4            | 144.8 |
| 250                                                         | 84.8     | 89.1  | 87.8      | 89.4  | 90.2       | 92.3  | 94.2     | 96.1  | 99.6           | 105.7 | 111.5     | 114.2 | 114.4            | 147.6 |
| 315                                                         | 86.6     | 88.9  | 87.9      | 89.4  | 90.5       | 93.4  | 94.8     | 96.2  | 102.1          | 108.5 | 114.1     | 115.5 | 115.4            | 149.3 |
| 400                                                         | 87.6     | 88.9  | 89.6      | 90.2  | 91.3       | 93.1  | 95.0     | 96.9  | 104.1          | 111.7 | 117.1     | 117.0 | 113.2            | 151.0 |
| 500                                                         | 88.3     | 90.9  | 90.9      | 91.9  | 92.8       | 95.6  | 97.0     | 98.7  | 105.7          | 114.7 | 118.9     | 117.3 | 110.4            | 152.3 |
| 630                                                         | 89.0     | 91.6  | 92.1      | 93.4  | 93.2       | 96.1  | 98.5     | 100.4 | 107.1          | 116.7 | 120.6     | 116.5 | 107.6            | 153.4 |
| 800                                                         | 91.8     | 91.6  | 92.9      | 94.2  | 94.3       | 97.1  | 99.8     | 101.9 | 109.9          | 117.5 | 121.6     | 115.3 | 105.7            | 154.2 |
| 1000                                                        | 95.3     | 95.3  | 96.3      | 96.9  | 96.4       | 98.8  | 100.2    | 102.9 | 110.3          | 117.9 | 121.5     | 113.7 | 104.4            | 154.2 |
| 1250                                                        | 96.9     | 101.2 | 99.2      | 99.9  | 100.1      | 101.0 | 101.4    | 104.3 | 111.5          | 117.0 | 121.4     | 112.6 | 103.6            | 154.0 |
| 1600                                                        | 98.1     | 100.0 | 99.4      | 99.3  | 99.0       | 101.4 | 103.2    | 105.3 | 113.4          | 116.7 | 121.8     | 112.5 | 103.8            | 154.4 |
| 2000                                                        | 98.3     | 100.6 | 100.0     | 100.4 | 98.9       | 100.8 | 102.8    | 105.9 | 112.5          | 117.8 | 121.0     | 110.6 | 103.6            | 154.1 |
| 2500                                                        | 97.4     | 100.2 | 99.8      | 101.2 | 100.4      | 102.0 | 103.4    | 106.8 | 112.4          | 117.9 | 119.2     | 109.5 | 103.3            | 153.4 |
| 3150                                                        | 96.5     | 98.8  | 99.1      | 99.3  | 100.2      | 103.0 | 104.1    | 106.1 | 112.7          | 116.5 | 117.3     | 108.4 | 101.7            | 152.2 |
| 4000                                                        | 96.2     | 98.2  | 98.4      | 99.0  | 99.2       | 102.2 | 103.8    | 106.9 | 112.8          | 115.5 | 115.7     | 107.0 | 99.5             | 151.4 |
| 5000                                                        | 96.9     | 98.6  | 98.2      | 99.4  | 99.1       | 101.6 | 103.2    | 106.3 | 112.3          | 114.7 | 114.0     | 105.0 | 99.3             | 150.6 |
| 6300                                                        | 97.3     | 99.3  | 99.6      | 100.2 | 99.5       | 102.0 | 103.3    | 106.2 | 111.5          | 112.9 | 112.7     | 103.9 | 98.2             | 149.8 |
| 8000                                                        | 96.5     | 99.3  | 100.1     | 100.4 | 100.0      | 101.6 | 103.3    | 105.4 | 110.8          | 111.7 | 110.7     | 101.6 | 96.8             | 149.1 |
| 10000                                                       | 96.9     | 98.4  | 99.9      | 101.7 | 100.9      | 102.4 | 103.9    | 104.8 | 109.7          | 109.9 | 109.8     | 102.0 | 96.0             | 148.9 |
| 12500                                                       | 95.6     | 97.5  | 99.6      | 100.3 | 100.3      | 102.3 | 102.6    | 103.3 | 109.2          | 108.6 | 107.3     | 100.6 | 95.1             | 148.5 |
| 16000                                                       | 93.1     | 96.0  | 97.7      | 99.7  | 99.5       | 101.0 | 102.3    | 102.2 | 107.1          | 106.6 | 105.8     | 98.8  | 93.3             | 148.3 |
| 20000                                                       | 90.0     | 92.7  | 95.1      | 96.9  | 96.9       | 100.1 | 100.7    | 100.1 | 104.5          | 104.0 | 103.9     | 96.6  | 90.7             | 147.8 |
| 25000                                                       | 86.7     | 90.3  | 92.6      | 93.9  | 94.9       | 97.5  | 98.7     | 97.8  | 101.8          | 99.4  | 99.3      | 94.2  | 88.4             | 147.1 |
| 31500                                                       | 83.6     | 86.5  | 89.1      | 90.9  | 91.4       | 94.0  | 94.5     | 93.9  | 99.6           | 97.5  | 96.2      | 90.6  | 85.0             | 147.3 |
| 40000                                                       | 79.2     | 82.9  | 85.4      | 86.2  | 87.7       | 91.3  | 90.4     | 90.6  | 96.5           | 94.6  | 94.1      | 87.1  | 80.0             | 148.2 |
| 50000                                                       | 73.1     | 77.3  | 87.4      | 81.5  | 82.5       | 86.2  | 85.7     | 85.4  | 91.3           | 89.9  | 88.9      | 82.6  | 74.3             | 147.9 |
| 63000                                                       | 68.0     | 72.8  | 87.6      | 76.4  | 78.1       | 81.3  | 80.5     | 81.1  | 87.3           | 87.1  | 85.9      | 77.8  | 67.9             | 150.0 |
| 80000                                                       | 61.0     | 67.3  | 86.8      | 70.5  | 72.1       | 75.8  | 73.9     | 75.1  | 81.2           | 83.5  | 80.3      | 71.6  | 60.6             | 153.1 |
| CASPL                                                       | 108.7    | 111.1 | 111.1     | 111.9 | 111.7      | 113.8 | 115.2    | 117.2 | 123.4          | 127.9 | 131.0     | 125.8 | 122.5            | 165.7 |
| PNL                                                         | 120.9    | 123.3 | 123.1     | 124.0 | 123.9      | 126.3 | 127.7    | 130.1 | 136.1          | 140.3 | 142.4     | 135.2 | 130.5            |       |
| PNLT                                                        | 120.9    | 124.4 | 123.1     | 124.6 | 124.5      | 126.3 | 127.7    | 130.1 | 136.1          | 140.3 | 142.4     | 135.2 | 130.5            |       |
| DBA                                                         | 108.1    | 110.4 | 110.2     | 110.9 | 110.6      | 112.7 | 114.2    | 116.8 | 123.3          | 127.9 | 130.8     | 123.6 | 117.2            |       |
| NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166 |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
| VEHICLE                                                     | = ADR422 |       | TEST DATE |       | = 11-30-82 |       | LOCAT    |       | = C41 ANECH CH |       | CONFIG    |       | = 6              |       |
| IAPLHA                                                      | = SB59   |       | IEGA      |       | = NO       |       | PWL AREA |       | = FULL SPHERE  |       | TAMB F    |       | = 62.60          |       |
| WIND DIR                                                    | =        |       | DEG       |       | WIND VEL   |       | = MPH    |       | EXT DIST       |       | = 40.0 FT |       | EXT CONFIG = ARC |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
| FNINT                                                       | =        |       | LBS       |       | XNL        |       | =        |       | RPM            |       | XNH       |       | =                |       |
| FNRAMB                                                      | =        |       | LBS       |       | XNLR       |       | =        |       | RPM            |       | XNHR      |       | =                |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |
|                                                             |          |       |           |       |            |       |          |       |                |       |           |       |                  |       |

FLIGHT TRANSFORMED MODEL SOUND PRESSURE LEVELS  
59.0 DEG. F., 70 PERCENT R.H. STD. DAY, SB 40.0 FT. ARC

IDENTIFICATION - 82F-400-7630 X7630F

ANGLES MEASURED FROM INLET, DEGREES

|       | 40.   | 50.   | 60.   | 70.   | 80.   | 90.   | 100.  | 110.  | 120.  | 130.  | 140.  | 150.  | 160.  | PWL   |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| FREQ  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 50    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 63    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 80    |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 100   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 125   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 160   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 200   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 250   | 92.3  | 95.3  | 92.6  | 92.6  | 91.8  | 92.3  | 92.3  | 92.5  | 98.7  | 104.1 | 109.2 | 111.1 | 112.8 | 145.4 |
| 315   | 92.3  | 95.3  | 92.6  | 92.6  | 92.3  | 93.6  | 93.4  | 93.4  | 101.9 | 108.7 | 113.7 | 114.5 | 113.1 | 148.5 |
| 400   | 94.3  | 95.3  | 92.8  | 92.8  | 93.0  | 93.4  | 94.2  | 95.0  | 103.8 | 112.4 | 116.7 | 116.6 | 113.4 | 150.8 |
| 500   | 94.7  | 94.9  | 94.4  | 93.5  | 94.7  | 96.0  | 96.2  | 96.7  | 105.0 | 114.2 | 118.3 | 116.4 | 112.4 | 151.8 |
| 630   | 96.0  | 97.3  | 95.9  | 95.4  | 95.2  | 96.5  | 97.5  | 98.1  | 108.1 | 115.3 | 119.9 | 116.4 | 113.1 | 153.0 |
| 800   | 96.7  | 98.0  | 97.1  | 96.9  | 96.3  | 97.7  | 98.8  | 99.7  | 109.0 | 116.3 | 120.6 | 116.2 | 114.4 | 153.7 |
| 1000  | 99.3  | 97.9  | 97.9  | 97.7  | 98.3  | 99.5  | 99.4  | 100.8 | 110.3 | 115.6 | 120.6 | 115.2 | 113.7 | 153.5 |
| 1250  | 100.9 | 101.2 | 100.3 | 99.8  | 102.0 | 101.8 | 100.7 | 102.3 | 112.4 | 115.5 | 121.2 | 115.3 | 114.1 | 154.1 |
| 1600  | 102.3 | 105.9 | 103.1 | 102.8 | 101.1 | 102.4 | 102.8 | 103.6 | 111.8 | 116.8 | 120.6 | 113.6 | 114.1 | 154.0 |
| 2000  | 103.4 | 104.7 | 103.3 | 102.3 | 101.1 | 102.1 | 102.6 | 104.4 | 112.1 | 117.4 | 119.2 | 113.0 | 114.3 | 153.6 |
| 2500  | 103.3 | 105.1 | 103.8 | 103.4 | 103.2 | 103.6 | 103.6 | 105.7 | 112.9 | 116.4 | 117.8 | 112.4 | 113.3 | 153.0 |
| 3150  | 104.3 | 106.3 | 104.9 | 105.2 | 103.4 | 105.0 | 104.7 | 105.4 | 113.5 | 115.7 | 116.3 | 110.7 | 110.4 | 152.4 |
| 4000  | 104.1 | 105.5 | 104.6 | 103.7 | 102.9 | 104.7 | 105.0 | 106.7 | 113.1 | 115.0 | 114.7 | 108.9 | 110.3 | 151.8 |
| 5000  | 103.7 | 105.0 | 104.1 | 103.7 | 103.2 | 104.6 | 104.7 | 106.3 | 112.4 | 113.3 | 113.5 | 108.0 | 109.5 | 151.0 |
| 6300  | 104.4 | 105.3 | 104.0 | 104.2 | 103.6 | 105.0 | 104.7 | 106.3 | 111.8 | 112.2 | 111.5 | 105.6 | 107.8 | 150.4 |
| 8000  | 104.6 | 105.9 | 105.3 | 104.9 | 104.1 | 104.6 | 104.7 | 105.4 | 111.0 | 110.7 | 111.1 | 106.5 | 107.9 | 150.4 |
| 10000 | 103.7 | 105.7 | 105.6 | 104.9 | 104.9 | 105.4 | 105.3 | 104.9 | 111.0 | 110.1 | 109.3 | 105.9 | 108.0 | 150.7 |
| 12500 | 103.7 | 104.5 | 105.1 | 106.0 | 104.4 | 105.3 | 104.5 | 103.7 | 109.6 | 108.7 | 108.6 | 105.0 | 107.1 | 150.7 |
| 16000 | 101.9 | 103.1 | 104.3 | 104.0 | 103.6 | 104.0 | 104.3 | 102.8 | 107.6 | 106.6 | 107.2 | 103.2 | 105.0 | 150.6 |
| 20000 | 99.1  | 101.2 | 102.0 | 103.0 | 101.5 | 103.1 | 102.8 | 100.8 | 106.4 | 103.7 | 104.3 | 102.7 | 104.4 | 150.6 |
| 25000 | 98.1  | 99.6  | 100.5 | 100.7 | 99.5  | 100.5 | 101.0 | 99.1  | 104.4 | 102.0 | 101.3 | 99.2  | 101.3 | 150.8 |
| 31500 | 94.1  | 96.4  | 97.2  | 96.9  | 96.0  | 97.0  | 96.7  | 94.8  | 101.2 | 98.8  | 98.7  | 94.7  | 94.5  | 150.4 |
| 40000 | 90.1  | 91.8  | 92.9  | 93.1  | 92.3  | 94.3  | 92.1  | 90.8  | 96.5  | 94.5  | 93.8  | 90.6  | 89.2  | 150.2 |
| 50000 | 85.3  | 87.8  | 91.8  | 88.1  | 86.8  | 89.2  | 87.4  | 85.7  | 93.3  | 92.6  | 91.7  | 86.7  | 83.6  | 151.1 |
| 63000 | 76.7  | 80.2  | 89.2  | 81.9  | 82.1  | 84.3  | 82.1  | 81.3  | 88.7  | 90.4  | 87.6  | 81.9  | 77.8  | 152.3 |
| 80000 | 68.1  | 72.5  | 86.5  | 74.4  | 76.2  | 78.8  | 75.4  | 75.1  | 78.9  | 80.6  | 77.8  | 72.1  | 68.0  | 152.6 |
| OASPL | 114.9 | 116.4 | 115.8 | 115.6 | 114.9 | 115.9 | 115.8 | 116.5 | 123.5 | 126.9 | 130.1 | 125.9 | 125.0 | 165.9 |
| PNL   | 126.8 | 128.5 | 127.2 | 127.1 | 126.1 | 127.3 | 127.4 | 128.8 | 135.8 | 138.8 | 140.7 | 135.9 | 136.1 |       |
| PNLT  | 126.8 | 128.5 | 127.2 | 127.1 | 126.1 | 127.3 | 127.4 | 128.8 | 135.8 | 138.8 | 140.7 | 135.9 | 136.1 |       |
| DBA   | 192.0 | 195.6 | 207.4 | 197.2 | 198.1 | 200.6 | 197.7 | 197.1 | 202.5 | 203.9 | 201.3 | 195.8 | 192.0 |       |

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OF FOUR QUALITY

MODEL/FULL SCALE FAC - IN=1.000, CALC=1.000 FREE JET VEL (FPS)= 400.00, DIAM (IN)= 48.00 REFR CORR YES, TURB CORR YES

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

VEHICL = ADH422 TEST DATE = 11-30-P2 LOCAT = C41 ANECH CH CONFIG = 6 MODEL = 6 FLTVEL = 400. FPS  
 IAPLHA = SB59 IEQA = NO PWL AREA = FULL SPHERE TAMB F = 62.60 PAMB HG = 29.48 RELHUM = 62.0 PCT  
 WIND DIR = DEG WIND VEL = MPH EXT DIST = 40.0 FT EXT CONFIG = ARC MIKE HT = NBFR =

FNINI = LBS XNL = RPM XNH = RPM V8 = 1609.5 FPS AE8 = 3.4 SQ IN  
 FNRAMB = LBS XNLR = RPM XNHR = RPM V18 = 2602.9 FPS AE18 = 18.0 SQ IN

RUNPT = 82F-400-7630 TAPE = X7630F TEST PT NO = 7630 NC = AE075 CORR FAN SPEED = RPM

IDENTIFICATION - 82F-400-7630 X76301

ANGLES MEASURED FROM INLET, DEGREES

| FREQ  | 40.  | 50.  | 60.  | 70.  | 80.  | 90.  | 100. | 110. | 120. | 130. | 140. | 150. | 160. | PWL   |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 50    | 73.0 | 75.5 | 74.1 | 74.8 | 75.5 | 75.9 | 76.6 | 77.0 | 85.1 | 92.7 | 95.4 | 93.1 | 86.6 | 169.0 |
| 63    | 73.4 | 75.1 | 75.6 | 75.4 | 77.1 | 78.5 | 78.6 | 78.7 | 86.3 | 94.4 | 97.0 | 92.9 | 85.5 | 169.9 |
| 80    | 74.6 | 77.5 | 77.1 | 77.4 | 77.6 | 79.0 | 79.9 | 80.1 | 89.4 | 95.5 | 98.5 | 92.8 | 86.1 | 171.1 |
| 100   | 75.3 | 78.1 | 78.3 | 78.8 | 78.6 | 80.1 | 81.2 | 81.6 | 90.2 | 96.4 | 99.1 | 92.5 | 87.2 | 171.8 |
| 125   | 77.7 | 77.9 | 79.0 | 79.5 | 80.5 | 81.8 | 81.7 | 82.6 | 91.4 | 95.6 | 99.0 | 91.3 | 86.3 | 171.6 |
| 160   | 79.1 | 81.1 | 81.3 | 81.5 | 84.1 | 84.0 | 82.8 | 84.0 | 93.4 | 95.3 | 99.4 | 91.2 | 86.4 | 172.3 |
| 200   | 80.2 | 85.5 | 83.9 | 84.3 | 83.0 | 84.5 | 84.8 | 85.1 | 92.6 | 96.4 | 98.6 | 89.1 | 85.9 | 172.1 |
| 250   | 81.0 | 84.1 | 83.9 | 83.6 | 82.9 | 84.0 | 84.4 | 85.7 | 92.7 | 96.7 | 96.9 | 88.1 | 85.5 | 171.7 |
| 315   | 80.6 | 84.1 | 84.1 | 84.4 | 84.7 | 85.3 | 85.1 | 86.7 | 93.1 | 95.5 | 95.1 | 87.0 | 83.6 | 171.1 |
| 400   | 81.0 | 84.9 | 84.8 | 86.0 | 84.7 | 86.4 | 86.0 | 86.2 | 93.4 | 94.3 | 93.1 | 84.7 | 79.7 | 170.6 |
| 500   | 80.3 | 83.7 | 84.2 | 84.2 | 83.8 | 85.8 | 85.9 | 87.2 | 92.6 | 93.2 | 90.9 | 82.1 | 78.7 | 169.9 |
| 630   | 79.5 | 82.8 | 83.3 | 83.8 | 83.8 | 85.4 | 85.3 | 86.5 | 91.6 | 91.2 | 89.3 | 80.6 | 76.8 | 169.1 |
| 800   | 79.7 | 82.8 | 83.0 | 84.1 | 84.0 | 85.6 | 85.2 | 86.1 | 90.7 | 89.6 | 86.8 | 77.5 | 73.9 | 168.6 |
| 1000  | 79.4 | 83.0 | 84.0 | 84.6 | 84.3 | 85.0 | 85.0 | 85.1 | 89.7 | 87.9 | 85.9 | 77.7 | 72.9 | 168.5 |
| 1250  | 78.0 | 82.5 | 84.1 | 84.4 | 85.0 | 85.7 | 85.5 | 84.4 | 89.5 | 86.9 | 83.6 | 76.3 | 71.5 | 168.8 |
| 1600  | 77.2 | 80.7 | 83.2 | 85.2 | 84.2 | 85.4 | 84.4 | 82.9 | 87.7 | 84.9 | 82.0 | 74.1 | 68.3 | 168.8 |
| 2000  | 74.4 | 78.7 | 82.0 | 82.9 | 83.3 | 83.9 | 84.0 | 81.8 | 85.2 | 82.3 | 79.7 | 70.7 | 63.2 | 168.7 |
| 2500  | 69.8 | 75.6 | 78.8 | 81.3 | 80.6 | 82.5 | 81.9 | 79.1 | 83.2 | 78.1 | 75.0 | 67.4 | 57.7 | 168.7 |
| 3150  | 65.4 | 71.6 | 75.4 | 77.4 | 77.3 | 78.6 | 78.8 | 75.8 | 79.3 | 73.9 | 68.7 | 58.8 | 46.2 | 169.0 |
| 4000  | 55.2 | 63.6 | 68.3 | 70.4 | 70.8 | 72.2 | 71.5 | 68.3 | 72.3 | 66.0 | 59.8 | 45.4 | 24.8 | 168.5 |
| 5000  | 41.4 | 51.5 | 57.7 | 61.2 | 62.1 | 64.7 | 61.9 | 58.9 | 61.3 | 54.2 | 45.2 | 27.6 |      | 168.3 |
| 6300  | 18.8 | 33.2 | 44.6 | 45.3 | 46.5 | 49.7 | 47.1 | 42.9 | 46.1 | 38.0 | 25.3 |      |      | 169.2 |
| 8000  |      | 0.8  | 20.6 | 19.9 | 23.6 | 27.0 | 23.7 | 19.3 | 20.1 | 11.1 |      |      |      | 170.4 |
| 10000 |      |      |      |      |      |      |      |      |      |      |      |      |      | 170.8 |
| 2500  |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 16000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 20000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 25000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 31500 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 40000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 50000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 63000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |
| 80000 |      |      |      |      |      |      |      |      |      |      |      |      |      |       |

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OF POOR QUALITY

|       |      |       |       |       |       |       |       |       |       |       |       |       |      |       |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| GASPL | 91.0 | 94.5  | 94.9  | 95.6  | 95.5  | 96.7  | 96.5  | 96.8  | 103.3 | 106.1 | 107.9 | 101.2 | 95.9 | 184.0 |
| PNL   | 97.7 | 101.5 | 103.5 | 104.7 | 104.6 | 105.9 | 105.5 | 104.5 | 109.7 | 110.4 | 110.4 | 102.1 | 97.6 |       |
| PNLT  | 97.7 | 102.3 | 104.1 | 105.2 | 104.6 | 105.9 | 105.5 | 104.5 | 110.3 | 111.0 | 110.4 | 102.1 | 98.7 |       |
| DBA   | 87.5 | 91.3  | 92.6  | 93.6  | 93.4  | 94.6  | 94.3  | 93.9  | 99.1  | 98.8  | 97.8  | 89.4  | 85.3 |       |

MODEL AREA = 138.6 SQ CM ( 21.5 SQ IN) SCALED AREA = 9032.2 SQ CM (1400.0 SQ IN) DIAMETER RATIO = 8.071 FREQ SHIFT = -9

NASA DUAL FLOW SHOCK CELL/COAN. DUAL CONV/DFSC-6/NAS3-23166

|          |   |        |           |   |          |          |   |              |            |   |            |         |   |            |        |   |          |
|----------|---|--------|-----------|---|----------|----------|---|--------------|------------|---|------------|---------|---|------------|--------|---|----------|
| VEHICL   | = | ADH422 | TEST DATE | = | 11-30-82 | LOCAT    | = | C41 ANECH CH | CONFIG     | = | 6          | MODEL   | = | 6          | FLTVEL | = | 400. FPS |
| IAPLHA   | = | SB59   | IEGA      | = | NO       | PWL AREA | = | FULL SPHERE  | TAMB F     | = | 62.60      | PAMB HG | = | 29.48      | RELHUM | = | 62.0 PCT |
| WIND DIR | = | DEG    | WIND VEL  | = | MPH      | EXT DIST | = | 2400.0 FT    | EXT CONFIG | = | SL         | MIKE HT | = |            | NBFR   | = |          |
| FNIN1    | = | LBS    | XNL       | = | RPM      | XNH      | = | RPM          | V8         | = | 1609.5 FPS | AE8     | = | 3.4 SQ IN  |        |   |          |
| FNRMB    | = | LBS    | XNLR      | = | RPM      | XNHR     | = | RPM          | V18        | = | 2602.9 FPS | AE18    | = | 18.0 SQ IN |        |   |          |

RUNPT = 82F-400-7630 TAPE = X76301 TEST PT NO = 7630 NC = AE075 CORR FAN SPEED = RPM